EXPERIENCES
IN
SCHOOL EDUCATION

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

Commemorating 40th Year

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IN
SCHOOL EDUCATION

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NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

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Foreword

On the eve of the National Council of Educational Research and Training (NCERT's) fortieth anniversary I have great pleasure in placing this document in the hands of all those who have concern for and interest in, education and its development. The title *Experiences in School Education* comprises 28 articles contributed by scholars who have been associated and dealt for many years with various facets of education. The compendium, like all other such publications, cannot be in the nature of the last word on education. Education in India has undergone substantial change, in its structure, content and processes particularly after Independence. Being a dynamic process education will undergo change continuously. A publication of the present type can at best present a picture of what has happened over the years and the situation as it has evolved due to policy and programme initiatives and interventions. The main purpose of this compendium is to provide a perspective on different issues in school education, highlighting the needed reforms and suggest alternatives which can augment to have the spread of education and improve its quality and relevance.

The articles in this publication have somewhat arbitrarily been grouped into five sections: Policy, Aims and Concerns; Alternatives and Reforms; Systems and Management Issues; Specific Areas and Focus on Values.

The first section discusses, among other things, general policy issues, process of educational planning, aims and objectives of education, available resources, and significance of policy research in school education. In the second section deficiencies of school education, alternatives available for augmenting its reach like open schooling, reforms in examination, communication technology and instructional science have been touched upon. The third section covers such issues as institutional functioning and management of distance learning and qualitative improvement of secondary education through the Boards of Secondary Education. The fourth section deals with some specific areas, without in any way ascribing priority to them. The section contains discussion of specific areas such as vocationalization of school education, population education, bio-diversity and environmental education, social studies, inclusive education and pre-service and inservice teacher education. The fifth section focuses on values and deals with the desirability of promoting through education, awareness and appreciation of rights of the child. Sri Aurobindo's ideas on education have also been dealt with.

We have also added an article by Sri Raja Roy Singh, first Joint Director of NCERT, about Late J.P. Naik, former Advisor to the Ministry of Education, who made signal contribution to the planning and development of education. He was in a way an ideal role model in his work ethic as well as empathy with the children, both of which have been aptly reflected in the short article by Sri Raja Roy Singh. Shri Naik's contribution to the Report of Education Commission was monumental and is well known.

I would like to take this opportunity to share with the reader, a few of my own concerns. The crucial importance of education was appreciated by our founding fathers. Its development has received attention in our Five Year Plans. In spite, however, of the effort and increased investments, some of the tasks/goals continue to remain unrealized, although the number of schools and colleges and student enrolments have increased substantially, making education system in India indeed a very large one. The unfinished mandatory task of providing free and compulsory education to all children up to the age of 14 is the most important task which has remained unaccomplished. So is the task of improving the quality of education and enhancing its relevance. In this context it is important to be aware of the disparities that exist and the disadvantages, including those of education, from which large segments suffer. In an age, where media makes available information and projects life styles each hour of the day, importance of meeting the educational aspirations of neglected areas and segment becomes imperative.

Education remains always under pressure. In the present day world rapid expansion of knowledge demands more and more curricular inputs at every stage of education and a rapid adjustment of the content and methods in the light of the change that are taking place, nationally and globally. Rapid strides of scientific and technological developments and their application to production processes and of information technology require a *paradigm-shift* in education. The implications for education need to be understood and appreciated and provided for in educational policies and programmes.

While education of the masses is important, equally important is the need for continuous pursuit of excellence by providing educational and other opportunities to those who are gifted and talented in diverse fields. While India's education system has not produced internationally recognized leaders in different disciplines, even after more than half a century of Independence, our country has only a handful of persons who have impressed world with their intellectual calibre. Beyond establishing some more institutions dedicated for the purpose of nurturing talent or having some schemes for its early identification, it seems necessary to design special programmes within the normal process of education, which cater to the needs of the talented and exceptional children. It of course means as lot of new orientation for the existing educational system.

An important facet of education should concern values and their promotion more particularly of ethical and moral values, which are so significant for the quality of life of a nation. They are concerned with what Swami Vivekananda called "Man making and Character Building". No education is value neutral. The real issue is defining of values and selecting those which should be included within the framework of education. There is need for discussion of how to orient children in human values, avoiding platitudes and cliches of all kinds. Education, it needs to be recognized is an important instrument for moulding the character of future generation. Value orientation of education becomes significant in this context. The *National Curriculum Framework for School Education* does provide some directions in this regard.

I would like to underline the theme of Indianess of our education. This covers patriotism, national heritage and appreciation of our composite culture, our pride of place in the community of nations and such other themes, which need more focus in education. Students will need to be exposed to the great thinkers of modern India and the contribution that they have made, the great leaders of our struggle for freedom, the great entrepreneurs who have brought prosperity to our people, the scientists, technologists, writers, musicians, sports persons, who have brought laurels to India with a view to promoting the spirit of striving higher to lift the image of the country. We should also have an awareness of the contribution that our country has made in the past, in region, culture, philosophy, science, and art. The heritage that we possess is not only rich but also diverse.

I am grateful to those scholars who have made contributions for this publication. But for their willingness and cooperation this publication would not have been possible. I appreciate the role played by members of the project team, Prof. O.S. Dewal and Prof. Puran Chand who have taken pains in collecting and organizing the material. I express my gratitude to Prof. C.H.K. Misra, Former Principal, RIE Ajmer, for editing the book. I also thank Sh. Gobind Ram, Editorial Assistant and other staff of the Publication Department who helped in bringing out the publication.

J.S. Rajput
Director
National Council of Educational
Research and Training

August 2001
New Delhi

THE CONSTITUTION OF INDIA

Chapter IVA
Fundamental Duties

ARTICLE 51A

Fundamental Duties – It shall be the duty of every citizen of India —

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

GANDHIJI'S TALISMAN

"I will give you a talisman.Whenever you are in doubt or when the self becomes too much with you, apply the following test :

Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it ? Will it restore him to a control over his own life and destiny ? In other words,will it lead to Swaraj for the hungry and spiritually starving millions ?

Then you will find your doubts and your self melting away."

mkGandhi

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Policy Issues in School Education

B.P. KHANDELWAL*
MADHUMITA BANDYOPADHYAY**

Introduction

The school education system, throughout the world is at the crossroad. Setting priorities for universal access and ensuring success at each stage of school education is now a major concern of policy-makers in all the developing countries, including India. Universalisation of school education is an important government policy, which is guided by political agenda of the government. Universalisation of school education, thus, warrants for visioning of future to offer a broad guideline indicating the nature of education to be provided in the schools. It is widely acknowledged that school plays an important role of preparing future citizens 'shaping the destiny of a nation in the classroom'. It requires proper direction to decide the content of education, courses and curriculum, how these can be developed and transacted in the classroom, the people to be involved in this whole process of curriculum development and transmission and the clientele group to be taught. Education therefore, "is a reflection of the political system of a nation, and always to some extent the instrument of the national government" (Rowly, 1971, 12). Policy decisions for educational development are guided by several factors. This paper intends to explore the issues relevant for policy formulation, and also how these policies are being implemented.

Pre-requisites for Policy Formulation

Many countries have experienced changes in educational policy, as they pass through a time when enormous changes are taking place. The education scenario in the present century is highly influenced with globalisation and liberalisation. This has widened the scope for advancement in science and technology with

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increasing demand for high communication skills and adequate knowledge of information technology. But at the same time, it is important to understand that educational policy can no longer be decided solely within the national context ignoring the global impact. Joseph Di Bona observes: "As the world becomes more closely integrated financially, industrially and in terms of communication and media, there appears to be a greater need for national system of education to reflect the global tendency" (Bona, 1999). Education has been realised to be an instrument of social and economic reform. It is not only the key to knowledge and skill development, but much needed for development of the knowledge workers' society. Universal school education is positively co-related with the economic development.

The policy-makers in India confront several challenges while adopting strategic interventions relevant in today's situation. It is also because of the fact, that, ethos of Indian society is characterised by 'unity in diversity'. Creation of a 'good society' for promoting *national integrity* is also one of the major goals of education policy. It is necessary to understand the critical role of education as promoter of social stability "inculcating respect for a nation-state's laws and values" (Bottery, 2000, 149). Promotion of national integrity becomes more challenging in a country like India where society is highly pluralistic and it has rich cultural heritage and tradition. The concern expressed in the document 'Nation at Risk' in the context of education in the USA, appears relevant in the Indian context too, because in both countries education is considered as an important instrument of progress that is only possible by enabling people to participate fully in national life. 'A high level of shared education is essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom' (Nation at Risk, 1983). The main objective of education is to organise activities that promote learning or help in the construction of learning situation leading to development of a learning society. The policy concern in India, thus, goes well beyond achieving economic goals and it includes promotion of moral and spiritual strength of people for development of a cohesive and democratic society.

From the above observations, it is clear that adoption of education policy is significantly determined by broad societal goals, which in turn impacts the decisions about the use of limited resources, roles and responsibilities of management staff, management and development of human resources, cultural norms, economic and social priorities and achievement of sustainable development. Mitchell and Encarnation has considered this diverse *policy mechanism* "as structural organisation, revenue generation, resource allocation, programme definition, personnel training, assessment, and curriculum — an approach that clusters diverse aspects of organisations into the single category of *policy*" (Felter, 1994). However, all these diverse aspects have significant impact on functioning of school, which is the ultimate 'unit' where implementation of these policies takes place. Policy decision for school education appears to be very crucial as it deals with the most critical phase of human life including formative years and adolescence. It is the phase when each one of us learns how to learn. This is the phase, which inspires us for continuous learning, and this is the phase when the knowledge, skills and attitude for lifelong learning are developed. That is why, an integrated and holistic approach needs to be adopted to develop a common school system, which has been a major concern for educational policy in India.

The concept of school also varies considerably from place to place and from time to time. The education policy is moulded according to this concept of school and the type of education it provides. In our country, all the educational institutions including schools are traditionally considered as 'temple of learning' and teaching is considered as sacred work under *Guru-Sishya parampara*, which involves transmission of knowledge and values rather being considered as mere profession. Our education policy is indebted to Gandhiji's educational philosophy according to whom "if education is to fit the future citizen for playing his role in society, he should cultivate in school the character appropriate to a social being. He must be trained for his life. He must have an opportunity to practice civic virtues at school. To be a member of a democratic state he must learn the art of discipline and self-governance. He should cultivate breadth of vision, toleration and good neighbourliness. The school must be an organised society engaged in some fruitful creative activity" (Patel, 1952, 24). The entire philosophy underlying the Basic Education Scheme as expounded by Gandhiji still provides the basis for policy formulation that has attempted to establish a linkage between work and education. Eminent educationist and thinker

J. Krishnamurti visualised the function of education to free the learners from fear. In his opinion, while growing up, each learner "will have to know what life is, all about life with its struggle to earn a living, with its miseries, with its extra ordinary beauty. All this he will have to know and understand; and the school is the place to learn about these things" (Krishnamurti, 1987, 26). The concepts of school and the kind of education it provides determine the whole gamut of policy formulation. An openness of mind and cross-cultural understanding can be developed in school if the learning environment is conducive enough to promote self-learning of children rather than restricting them within the limit of learning three R's. Guidance for development of this kind of education system is available in the earlier policy documents of country including the POA, 1992 which stated:

> There is an increasing awareness about national integration and adherence to certain rational value and concerns; observance of secular, scientific and moral values; inculcation of an understanding of our composite culture, with its rich diversity, of our history, the history of freedom struggle and of the achievement of independent India; creation of an awareness of the importance of protection of environment and observance of small family norm; and stress on commitment of youth to manual work and social service. While these aspects have received due attention in the past, further recognition of the content and process of education on these lines would be a matter of foremost priority.

Above discussion indicates that policies necessarily arise in particular social, economic, political and institutional contexts. Policy formulation is a political work which can only be understood appropriately in a historical and cultural perspective. The way any policy is conceptualised, developed, defended, implemented owes a great deal to previous events and practices in a given jurisdiction (Levin, 2001). In India, the education policy that is being implemented at present find its origin in historical past. Over the years, significant efforts have been made for improving school education but it could not be made compulsory for all children of eligible age group (6-16 years). It is imperative at this stage, to get an insight into earlier policy initiatives in respect of school education including elementary and secondary (up to class X) both. It is important to know the recommendations of earlier policies in order to understand the present situation and also to decide the future course of actions. In this context it is worth to remember Prof. J.P. Naik's statement that, "The education life of any country is a continuum which gathers its past history into a living stream, flowing through the present into the future", (Naik, 1982, V). In Joseph Di Bona's words: "It seems appropriate to look carefully at this storehouse of experience" so that we may try to "combine the best of the past with the present needs of society" (Bhattacharya, 1999). However, the present trend in overall development scenario, the emerging situation with specific needs also determine policy decisions. According to Mukhopadhyay, "Policies are vision documents for the future. The challenge is there in capturing the future; capturing the future within the dilemma of what will be (according to trends and development) and what should be (desirable directions of development)" (Mukhopadhyay, forthcoming).

Historical Context of Policy Formulation

In order to make the discussion more comprehensive, an attempt has been made in this section to give an insight into the trend in policy development of school education during pre-independence as well as post-independence period.

Pre-independence Period

During colonial period, the formal sector consisted of institutions of two broad categories. The first included institutions of higher learning (pathsalas and madrasas) and the second was the institutions of elementary education, which was availed by middle class people. The formal education system of the period was traditional in character and covered only a very small proportion of the total population. The education in this period was not an instrument of creating an egalitarian society, but an attempt to create new classes, favourable to the new economic and political order, in lieu of the old feudal classes (Naik, 1975).

This period witnessed several commissions and committees, which served the interests of colonial government. This resulted in development of lopsided education system leaving a large section of populace in state of ignorance and illiteracy.

RECOMMENDATIONS OF COMMISSIONS

Elementary Education

The first move of colonial government towards elementary education can be seen in *Charter Act of 1813* which directed East India Company to spend one lakh rupees per year for education of Indian people. A survey conducted in 1822 revealed that Indian education system was even better than many European countries and From 1824, small amount of money started to be spent on education. These small efforts of British Government were followed by *Macaulay's Minute of 1835* which resulted in decline in indigenous education in the country as English was declared as medium of instruction. It is only the *Wood's Dispatch in 1854* which emphasised the importance of primary education and suggested for improvement in the indigenous education system. Most importantly, it asked for mass elementary education by adopting grant-in-aid system.

After few years, in 1859 based on the suggestions of *Stanley's Dispatch*, Local Cess Acts were passed by different provinces which introduced local tax on primary education. This had drastic impact on elementary education. *The Indian Education Commission in 1882-83* paid special attention to primary education and made important recommendations on all aspects, i.e. administration, curriculum, finance, training, etc. As per these recommendations, the control of primary and indigenous schools was handed over to local boards constituted by Lord Ripon. In 1904, Lord Curzon took some reformistic measures in respect of: (1) new system of grant-in-aid, (2) reforms in curriculum, and (3) training of primary teachers etc.

The most important event took place in 1910 when Gopal Krishna Gokhle moved his resolution in the Imperial legislature asking for "better provision for the extension of elementary education". In 1913, a resolution was passed by the government for the "widest possible extension of primary education on voluntary basis". Provincial Governments were authorised to provide free education to the backward and the poor. In 1919, the principle of compulsory primary education was accepted by the Government Legislation and in 1921 the control of elementary education was transferred to Indian Ministers. *In 1929* after a study on primary education *Hartog Committee* pointed out that elementary education experienced wastage and stagnation though it expanded to a considerable extent and recommended for consolidation of primary education. *In 1937, Wood's Committee Report* came out with emphasis on providing education based on natural interest of children. In the same year *Zakir Hussain Committee* Report known as *Wardha Scheme* attempted to draft an activity curriculum which implied that schools must be places of work, experiment and discovery. *In 1937*, Mahatma Gandhi moved the resolution on *Basic Education* at Wardha Constituting the national policy of free and compulsory education for all in the age groups 6-14. *In 1944, CABE* submitted a plan recommending universal free and compulsory education for 6-14 years age group on the line of Basic Education Scheme and also endorsed the curriculum suggested by Zakir Hussain Committee. All these major recommendations gradually shaped the policy for elementary education of post-independence era. Again in Kothari Commission, the concerns for compulsory elementary education was expressed which were used as the basis for formulation of NPE 1968 and NPE 1986.

Secondary Education

With introduction of *Macaulay's policy* in 1835 major changes took place in secondary education. Macaulay's policy was introduced by a resolution passed by Lord Bantinck. Promotion of western arts and sciences was acknowledged as the avowed objective of the government. Macaulay's Minute on education announced:

> It is impossible for us, with our limited means, to attempt to educate the body of the people. We must at present do our best to form a class who may be interpreters between us and the millions we govern; a class of persons, Indian in blood and colour, but English in tastes, opinions, morals and intellect" (Alexander, 2000, 91).

Macaulay's policy encouraged growth of secondary schools, which used English as medium of instruction. *In 1854 Wood's Dispatch* gave further stimulus to the growth of secondary schools. *In 1882-83 Indian Education Commission* recommended, "In the upper classes of high schools there should be divisions — one leading to the entrance examination of universities, the other of a more practical character intended to fit the youths for commercial or other non-literacy pursuits. This Commission also recommended for: (i) means for expanding secondary education, (ii) measures for removing its defects, (iii) training of secondary teachers, and (iv) medium of instruction. This Commission favoured English education as medium of secondary education. As per recommendations of the *University Commission of 1902*, the administration of Secondary Education was virtually transferred to the universities. Universities were empowered by the *Indian Universities Act of 1904* to draw up necessary rules and regulations for the recognition of schools desiring to send up pupils for the matriculation examination. In *1917 Calcutta University Commission* was appointed and it recommended:

(i) The stage of admission, to the university should be that of the present intermediate instead of present matriculation.

(ii) There should be two secondary school examinations — one after matriculation at the age of 16 and other one after completion of intermediate at the age of 18.

This was for the first time that a Commission suggested for transfer of intermediate classes to high schools and need for setting up of an independent Board of Education to control high schools and intermediate education. This commission also pointed out: (i) defects of examination-ridden system, (ii) miserable condition of teaching service, (iii) inefficiency of teachers, and (iv) predominance of English, etc. which were to be considered for quality improvement.

The Hartog Committee in 1929 pointed out two defects of secondary education: (i) domination of the matriculation examination, and (ii) very large failures at this examination. The committee pleaded for a more diversified curriculum in schools. The committee also recommended for making provision of alternative courses in technical and industrial schools. In *1934, Sapru Committee* was appointed which recommended introduction of diversified courses, abolition of intermediate stage and extension of secondary stage by one year consisting six years at a stretch.

This committee was followed by another commission in 1944 which is known as *Sargent Commission*. The major recomendations of this committee were:

(i) 'The high schools course should cover six years and the normal age of admission should be about eleven.

(ii) High schools should be of two types : (a) academic, and (b) technical.

(iii) The curriculum in all cases should be as circumstances permit and should not be unduly restricted by the requirement of universities or examining bodies;

(iv) Entry to high schools should be on a selective basis.

The Central Government accepted these recommendations and established a separate department at the centre in 1945.

Above discussion reveals that, though there has been expansion of education in colonial period, only a section of people had access to it. Recommendation of various commissions had significant impact on education system. For example, use of English language as medium of instruction, selective entry in school, exmination-oriented and teacher-oriented education system affected adversely on mass education which still persists. The modern educational system of India was meant to be an improvement over this traditional system of education from every point of view. It was, therefore, geared right from the beginning to the pursuit of the three major goals of equality, quality and quantity. They have always dominated the determinations of education policies and have been simultaneously pursued (Naik, 1975, p.3). Universalisation of elementary education has remained on high priority in last several decades. At the same time, quality improvement remained a major concern along with vocationalisation, diversification of courses at the secondary stage, removal of defects of examination ridden system and so on. The policies during post-independence period also focussed on these issues.

Policy Initiatives During Post-independence Period

During the post-independence period, educational development in India has passed through several stages. After achieving freedom the major goal for socio-economic development was the building of self-reliant nation through optimal utilisation of the resources in men and materials and the establishment of an egalitarian and tolerant society. All the aspects of national policy centred on this goal and the education was considered as the 'mainstay' of all national endeavours. Like pre-independence period, the post-independence era has witnessed several important commissions, which expressed their concern for development of knowledge and skills based on national system of education with main objectives of achieving national integration, reduction of regional imbalances and elimination of social injustice and disparities. It has been realised that without proper education, the achievement of economic and social development of country is not possible. Education for all is the basic thrust of the education policy, and elementary education has been assigned the highest priority, as enshrined in the country's Constitution. That is why, 'Education for All' is the basic thrust of the education policy, and elementary education has been assigned the highest priority, as enshrined in the country's Constitution. The Directive Principles of State Policy as enunciated in our Constitution envisage that the State shall provide free and compulsory education for children up to 14 years of age. Our Constitution also safeguarded religion, language and educational choices of minorities. Entry 20 of list III in the Constitution considered educational planning as an essential element of economic and social planning. It also suggested that the Government of India and State Governments have to work together in preparing and implementing national plans for the reconstruction of education. In 1976, by a constitutional amendment, education was included in the concurrent list and became a joint responsibility of states and the central government.

The *National Policy on Education* has been derived out of constitutional obligations. The major task before the policy makers was to restructure entire education system in the tune of emerging situations, changing needs and demands of the people. Besides constitutional enactments, several commissions also provided necessary inputs to the National Policy on Education. The policy recommendations for elementary and secondary education are discussed in the following paragraphs.

Elementary Education

During post-independence period, the first commission which strongly recommended for universalisation of elementary education was *Kothari Commission*. The major recommendations of Kothari Commission in this regard were:

- Educational system should be reconstructed by improving the effectiveness of primary education introducing work experience as an integral part of general education.
- Students should be taught either the mother tongue or the regional language at the primary level; two languages should

be taught at the upper primary stage. Apart from these, mathematics, science, social studies, physical education, rural and spiritual education, art, creative activities and health education also should be taught.

- Evaluation at the primary stage should be ungraded while in upper primary stage, along with written examination oral test should be conducted.

The recommendations of Kothari Commission provided the basis for formulation of the *National Policy of Education in 1968*, which recommended for:

- Provision of free primary education in all parts of the country
- Provision of arrangements for pre-primary education
- Qualitative improvement of primary schools to be made effective
- Adoption of ungraded system in Class I and II and if possible up to class IV
- Children who cannot attend full-time schools should be given part-time education
- Special assistance should be provided to under developed areas for the expansion and improvement of primary education, by the Government of India.

In NPE 1968, though emphasis was given on free and compulsory primary education, it was also recommended that, "strenuous efforts should be made for the early fulfilment of the Directive Principles under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of fourteen. Suitable programmes should be developed in schools to ensure that every child who is enrolled in school successfully complete the prescribed course" (quoted in Kaur, 1985, 142).

As a result of these recommendations, the subsequent plans gave very high priority to elementary education, its expansion and quality improvement. In spite of substantial progress, it was realised that, universalisation of elementary education would require vigorous efforts at all levels and the National Policy on Education, 1986 re-emphasised those strategies required for making elementary education within the reach of every school-going child.

National Policy on Education, 1986 and Revised Programme of Action

The *National Policy on Education, 1986* envisages a national system of education all over the country. It also provides suggestions for universal access to education of comparable quality. It proposes a common core curricula based on a National Curriculum Framework. NPE, 1986 emphasises on the following important elements:

- Thrust in elementary education upon —
  - Universal access and enrolment
  - Universal retention of children up to 14 years of age
  - Substantial improvement in the quality of education to enable all children to achieve essential levels of learning.
- Adoption of child-centred and activity-based teaching-learning process and exclusion of corporal punishment to encourage children to attend the school regularly.
- Provision for essential facilities. The policy suggested that the scope of Operation Blackboards will be enlarged to provide—
  - Three reasonably large rooms, blackboards, maps, charts, toys, other necessary learning aids and school library
  - At least three teachers in each shool
  - Recruitment of female teachers whose percentage should be 50% to total recruitment
  - Extension of Operation Blackboard to upper primary level.
  - Use of JRY funds for construction of school building.
- Introduction of non-formal education for school drop-outs, children from accessless habitations, child labour, etc. Steps would be taken to facilitate lateral entry into the formal system of children passing out of the non-formal system.
- Undertaking effective steps to provide suitable curriculum on the line of core-curriculum but as per needs of the learners and at the context of local environment.
- Involvement of Voluntary Agency and PRI in running NFE programme.
- Adoption of specific strategies to solve problem of drop-out.
- Launching of a national mission before entering 21st century

to achieve the goal of compulsory education of all children up to 14 years.

To realise the goals set by *NPE 1986, POA, 1992* came out with many other recommendations. It was elaboration of the policy with a detailed programming on every aspect. Besides acknowledging concerns of NPE, 1986, the outcome of *Jomtein Conference* (1990) and findings of *CABE* (1991) also were taken into consideration. The Jomtein Conference advocated a holistic concept of basic education in lieu of a sectoral approach segregating sections like primary schooling, non-formal education, adult and continuing education in separate compartments. It was also decided to formulate comprehensive basic education projects in educationally backward states. The *CABE* suggested for adopting a holistic approach to address:

- the educational needs of the working children, girls and disadvantaged groups, and
- issues of content, process and quality.

Drawing references from all these recommendations, POA, 1992 came out with broad strategies for disaggregated target setting and decentralised planning with district as the unit of planning.

Under the broad strategies, the following strategies were proposed by POA, 1992. These are:

- Adoption of alternative channels of schooling for those who cannot attend full-time schooling.
- Microplanning through involvement of teachers and the community.
- Awareness building of parents for supporting their children to complete the elementary schooling.
- Establishment of linkages between programmes of pre-school and primary education.
- Improvement of school facilities through revamped Operation Blackboard and connecting it to MLL strategy.
- Decentralisation of educational management for effective functioning of schools.
- Introduction of MLLs at primary and upper primary stages including coverage of the non-formal education channel.

- Revision of process and content of elementary education.
- Introduction of continuous and comprehensive evaluation with focus on remedial measures.
- Modification of teacher training programmes in view of changed strategies and programmes.
- Improvement of National Mission to achieve the goals envisaged in the revised policy.

Secondary Education

Though universalisation of secondary education has not been on the agenda of national policy debate but improvement of its quality has remained a matter of concern in each policy document formulated since independence.

The efforts for improving secondary education were started with *University Education Commission which is also known as Radha Krishnan Commission.* Although the real terms of reference of this commission were to inquire into university education, it also reviewed the secondary education due to its direct implication on tertiary or higher education. The Commission very rightly pointed out that, "Our secondary education remains the weakest link in our educational machinery and needs urgent reforms".

Unlike earlier Commissions, this Commission recommended for use of mother tongue and federal languages in Classes VI to VIII. The Government recognised the importance of this Commission and decided to implement its suggestions.

In 1948, Tara Chand Committee also suggested for setting up of multipurpose school system along with unipurpose schooling system. As a result multipurpose schools were started in First Five-Year Plan period. This Committee and CABE jointly recommended for another Commission to review all aspects of secondary education, which resulted in appointment of Secondary Education Commission in 1952. This is also known as *Mudaliar Commission* and it dealt with every aspect of secondary education. The Commission visualised the following three objectives for secondary education:

- The training of 'character' to fit the students to participate as citizens in the emerging democratic social order.
- The improvement of their 'practical and vocational efficiency' for building up the economic prosperity of the country.

- The development of their literacy, artistic and cultural interests which are necessary for self-expression and for the "full development of human personality'.

Major recommendations of the Commission related to increasing the duration of school stage from 10 years to 11 years, the setting up of multipurpose schools and institution of Boards of Secondary Education to control the secondary schools thus taking them out of the control of the universities.

Later, the *Education Commission, 1966-68*, known as *Kothari Commission*, was set up to comprehensively cover every level of education. It is still considered as a basic document for reform and restructuring of Indian education. Comprehensive recommendations were made with regard to structure of education, curriculum, improvement in the quality and competence of teachers, better facilities in terms of libraries and laboratories, reforms in methods of teaching.

The report emphasised on adoption of common school system of education; appropriate language policy, promotion of national consciousness and international understanding; the development of proper interest, attitudes and values, and building up of essential skills, etc. However, the Commission did not envisage Universalisation of Secondary Education as a major intervening strategy as it mentioned that "for several years to come it will not be financially possible for the states to make secondary education universal, nor will it be possible on economic grounds for large majority of children to continue their education beyond compulsory stage".

National Policy of Education (NPE), 1968

As a follow-up of this report the Government of India came out with NPE in 1968, which called for restructuring of Indian education including secondary education. It has laid an emphasis on *creation of common schooling system* as recommended by Kothari Commission and asked for expansion of facilities for secondary education to the areas and classes which have been denied in the past. It also emphasised on *uniform educational structure, i.e. 10+2+3* in all the parts of the country. Under this pattern, provision of general education with undifferentiated courses was recommended in view of the need of majority of children who leave the system after completion of secondary education. It suggested that mathematics and science should be made compulsory at the secondary stage while diversified courses with stress on vocationlisation were to be included at senior secondary and higher educational levels.

During the course of implementation of this new policy, a framework of national curriculum for each subject of all stages of school education was prepared with two main objectives — (a) preparation for entry into the world of work and, (b) preparation for higher level academic studies or for vocational courses.

National Policy on Education, 1986 and Its Programme of Action

The National Policy on Education, 1986 restated the commitments of constitution and set out the broad goals of public education to:

- promote all-round development, material and spiritual.
- Refine sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit, thus furthering the goals of socialism, secularism and democracy enshrined in the constitution.
- Develop manpower for different levels of the economy.

The 1986 policy was also egalitarian in its approach. It sought to:

- Remove disparities and equalise educational opportunity.
- Use education as an agent of basic change in the status of women.
- Equalise the educational development of SC/ST and other minorities.
- Integrate the physically and mentally challenged with the general community as equal partners.

Major policy thrusts in respect to secondary education included:

A. Widening access to secondary education with emphasis on planned expansion facilities in remote areas, girls and scheduled castes and tribes.

B. Improvement in quality by—
    - providing adequate infrastructure,

- updating and modernisation of content and curricula,
- improving teachers' education and training,
- reforming evaluation system
- use of media and technology.

C. Setting up of Pace Setting Institutions at the district headquarters for rural children.

D. Vocationalisation of Secondary Education.

E. Improvement in Planning and Management.

Programme of Action 1986 and 1992

In order to achieve the major goals of NPE, a *Programme of Action* was prepared in1986. This was revised in 1992, after the policy review by the Janardhan Reddy Committee and consequent on the 73rd and 74th Amendment of the Constitution which placed school education under the direct control of Panchayati Raj Institutions.

The major thrusts of POA 1992 are:

- Planned expansion of education facilities all over the country.
- Reorganisation of Boards of Secondary Education and vesting them with autonomy 'so that their ability to improve the quality of secondary education is enhanced'.
- Secondary level institutions would need to be equipped with computer facilities so that the children are trained in necessary computer skills according to the needs emerging in the technological world.

The broad parameters of the strategy suggested by the POA, 1992 are:

- Extending access to secondary education by setting up new schools in unserved areas particularly inhabited by SCs/ STs and backward communities with special emphasis on enrolment of girls.
- Progressively bringing in the higher secondary stage as a part of the school system in all the states.
- Formulation of national curriculum framework for the higher secondary stage as well as development of new curricula and instructional packages based on semester pattern.
- Review and revision of curricula of secondary education.

- Implementing a comprehensive scheme of examination reform.
- Improving considerably the physical and infrastructural facilities in secondary and higher secondary schools.
- Providing for diversity of courses in higher secondary schools.
- Reviewing afresh the existing system of pre-service teacher education for the secondary stage and formulating and implementing an improved teacher education system.
- Institutionalising inservice teacher training.
- Transforming the role of the Boards of Secondary Education
- Strengthening the academic institutions and bodies concerned with research and development in areas of curriculum, instructional materials and equipment for secondary schools.

From foregoing analysis it is evident that NPE,1986 and its POA,1992 have provided comprehensive recommendations in every sphere of school education. It is imperative at this stage to see the status of implementation in respect of some important areas like enrolment, access, equity and quality, which are most relevant in the context of universalisation of school education. Financial provision is also a major concern of policy, which has been discussed briefly.

School Education in India: A Situational Analysis

Progress in Enrolment

The elementary education sector has experienced an increase in enrolment at unprecedented scale and it is expected that if this growth is continued it will unleash a tremendous pressure on secondary education too. As per available data, there were 2.10 lakh primary schools and 13,596 upper primary schools in the year 1950-51. In 1998-99, the number of primary schools swelled to 6.27 lakh while number of upper primary schools became 1.90 lakh during the last fifty years. There has been sizeable increase of students' enrolment at the primary and upper primary levels. The enrolment at the primary level increased from 19.16 million in 1950-51 to 110.9 million in 1998-99 whereas the enrolment at the upper primary level has experienced thirteen-fold increase. Around 3.12 million students were enrolled in the upper primary schools in 1950-51, which became 40.30 million in the year 1998-99 (*Quality of Education in Global Era*, MHRD, 2001). The increase in number of institutions till recent years is given in Table 1 while growth in enrolment is highlighted in Table 2.

TABLE 1

Growth of Number of Recognised Schools, 1950-1998

Years	*Primary*	*Upper Primary*	*High/Higher Sec./ Inter/Pre./Jr. Colleges*
1950-51	209671	13596	7416
1960-61	330399	49663	17329
1970-71	408378	90621	37051
1980-81	494503	118555	51573
1990-91	560935	151456	79796
1993-94	572929	155707	88411
1994-95*	581305	163605	92252
1996-97*	598354	176772	102183
1998-99*	626737	190166	112438

**Provisional*

Source: Annual Report, MHRD, 2000-01.

This rapid increase in number of institutions and enrolment was also attributed to some strategic intervention of government.

Based on the suggestions made by NPE, 1986, a series of initiatives were undertaken by the Central as well as the State Governments to achieve the goal of elementary education. Several centrally sponsored schemes were launched with the objective of achieving universalisation of primary education. Presently, 248 districts are covered under centrally sponsored and externally funded District Primary Education Project. This project is underway in the educationally backward districts with low female literacy rate and it resulted in significant progress in enrolment and retention ensuring involvement of community and teachers in different stages of project implementation. Based on experiences of all these projects, a national level programme has been designed in the name of *Sarva Siksha Abhiyan* with a view to achieving the goal of universal primary education of five years schooling by 2007 and of universal elementary education of eight years of schooling by 2010. Both SSA and DPEP provide equal stress on improvement of access, quality, participation and achievement level of students and promoting equity for achieving the goal of universalisation of elementary education (UEE). It is expected that these programmes will help in increasing the number of children completing elementary education. This will unleash a tremendous pressure on entire school education. It is imperative at this stage to examine the enrolment situation in secondary sector.

In India, out of 97 million in the eligible group for secondary education (15-18) only 27 million students are enrolled in the school which means around two-thirds of eligible population remains out of school according to the recent NSSO survey. It has been estimated that more than two lakh additional institutions at the secondary level would be required to keep the pace of on-going development at the stage of elementary education with the implementation of DPEP as well as *Sarva Siksha Abhiyan*. Though the present situation of schooling facilities at the secondary level seems to be inadequate, this sector also has experienced increase in terms of number of institutions as well as enrolment (see Table 2). For example, according to 1992-93 data, the number of secondary schools was 84,086 with an enrolment of 20 million which increased to 1.10 lakh and 27 million respectively in the year of 1998-99 (*Annual Report*, MHRD, 1999, 93).

TABLE 2

Growth in Enrollment in Different Sectors of School Education

Year	*Primary*				*Upper Primary*				*High/Higher Secondary*			
	Male	*Female*	*Total*	*% of female*	*Male*	*Female*	*Total*	*% of female*	*Male*	*Female*	*Total*	*% of female*
1950-51	456	82	538	15	73	13	86	15	107	20	127	16
1960-61	615	127	742	17	262	83	345	21	234	62	296	21
1970-71	835	225	1060	21	463	175	638	27	474	155	629	25
1980-81	1021	342	1363	25	598	253	851	30	669	257	926	28
1990-91	1143	473	1616	29	717	356	1073	33	917	417	1334	31
1994-95	1181	533	1714	31	732	390	1122	35	956	490	1446	34
1995-96	1187	553	1740	32	756	409	1165	35	982	511	9493	34
1996-97	1205	585	1790	33	768	428	1196	36	1003	539	1542	35
1997-98	1229	643	1842	34	775	437	1212	36	985	536	1521	35

Source: Annual Report, MHRD, 2000-01, pp. 35-36.

Above analysis suggests that though there has been a gradual increase in enrolment and number of institutions, it is necessary to expedite the activities for expansion of schooling facilities to accommodate the large number of eligible population. It requires substantial financial resources, which determine the policy decisions. Therefore, some discussion on trend in budgetary allocation will be useful to understand the whole gamut of the system of secondary education.

Financing School Education

In reference to budgetary allocation in five year plans it is evident that in terms of absolute provision of outlays, the total plan expenditure on education sector has shown a rapid growth since the First Five Year Plan (1951-56). The absolute provision of outlays increased substantially during the period of first and eighth plan period. The First Five-Year Plan invested 105 billion in education, which increased to 254 billion in the Eighth Five Year Plan. But if this allocation is compared with total budgetary allocation in each plan, the place of education vis-a-vis other sectors in total budgetary allocation becomes more clear. Although in absolute terms, the plan allocation for education increased substantially from plan to plan, the share of education shows a declining trend from 7.91% in the First Five Year Plan to 2.7% in the Sixth Five Year Plan. However there has been a marginal increase in subsequent period and the percentage share of education in total plan outlay becomes 3.9% in the ninth plan.

With this background of pattern of financing in education, it is imperative to examine the position of school education in reference to the available data on intra-sectoral budgetary allocation on education (Table 1). In the first plan period, the elementary, secondary and higher education sectors each accounted for 56%, 13% and 9%, respectively, to the total outlay for education. This share of sectoral allocation became 65.7%, 10.5% and 10%, respectively. It is also evident that the secondary education has experienced a substantial cut in plan expenditure after the sixth plan while elementary education has received lion's share of the budget. In the sixth plan, the expenditure on secondary education reached to 25% of total plan outlay and gradually declined thereafter. Whereas, the budgetary allocation has been increased from 30 per cent to 65.7 per cent during sixth and ninth plans.

It should be noted that, though the plan expenditure on elementary education increased considerably yetthe total plan outlay for entire education sector did not increase much. In fact its percentage to total budgetary outlay declined considerably. Without sufficient financial resources, reforms in school education sector will not take place.

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TABLE: 3

Intra-Sectoral Allocation of Plan Expenditure for Education in the Five-Year Plans

Five Year Plan	*Elementary*	*Secondary*	*Higher*	*Total Plan Outlay Education*	*Percentage to Total Outlay*
First	85 (56)	20 (13)	14 (9)	153	7.86
Second	95 (35)	51 (19)	48 (18)	273	5.83
Third	201 (34)	103 (.8)	87 (15)	589	6.87
Fourth	239 (30)	140 (18)	195 (25)	786	5.17
Fifth	317 (35)	156 (17)	205 (22)	912	3.27
ixth	883 (30)	736 (25)	530 (18)	2943	2.70
Seventh	2849 (34)	1829 (22)	1201(14)	8500	3.50
Eighth	4006.6 (47)	1538 (18)	1055.8 (12.8)	8521.9	2.00
Ninth	16364.8 (65.7)	2603.5 (10.5)	2373.5 (9.5)	24908.5	2.90

Source: Five Year Plans, Analysis of Annual Plan, MHRD

(Figures in parenthesis indicates percentage to the total outlay for education)

The issues related to inadequate allocation has been brought into fore in preceding analysis. This paucity of fund has serious implication on present situation when universalisation of school education has become an urgency. Demand for allocation of six per cent of GDP is continuing since NPE, 1968. Even recently the International Summit on Education in Dakar, Senegal suggested the governments of developing countries to allocate six per cent of GDP on education. To see the expected changes in education this recommendation needs to be implemented. The following section of this paper intends to present a brief account of existing situation of secondary education in terms of its access and expansion, available facilities, management and administration, quality aspects and related issues. It is expected that this analysis may give some idea about the future course of action to initiate efforts for universalisation of school education.

Issues in Access, Equity and Quality

Access

Recommendation of POA, 1992

POA, 1992 recommended following measures for providing access to elementary education:

- New primary schools according to norms will be opened in unserved habitations (habitations/villages with 300 or more population and without any school within 1 km of distance),
- Opening of non-formal centres in smaller habitations and for children who cannot attend formal schools.
- Provision of upper primary school as per prescribed norm of new ratio of primary and upper primary schools of 2:1.
- Upgradation of every second primary school to upper primary level.
- Appointment of 45 lakh teachers to maintain 1:40 PTR and construction of 11 lakh additional classroom to accommodate 18 crore children in order to achieve goals of UEE.
- A new scheme of voluntary school would be launched.
- Efforts will be made to strengthen NFE scheme.

For widening the access to secondary education, following steps were suggested by NPE, 1986 and POA 1992:

- Provision of necessary facilities in existing secondary schools should be made with diversification of courses for science, commerce and vocational courses.
- Opening of high schools in unserved areas, particularly those inhabited by SCs/STs taking 'block' as a unit so that the ratio of secondary schools to upper primary schools is not lower than 1:1.86.
- Location of schools need to be decided based on school mapping exercise and on the basis of clearly defined norms and standard.
- Formulation of special plans by States/UTs, ensuring increase in enrolment of girls, the SCs/STs and other backward sections. Necessary guidelines to formulate the plans/ mechanisms should be developed by the NCERT in consultation with the education authorities of States and Union Territories.
- Expansion of open school system for those students who find it difficult to attend a full-time school.

General Coverage

On the basis of sixth survey data, it is possible to examine what kind of provision has been made for access. According to this survey, there are 10,60,612 habitations in the country with a total population of nearly 65.96 crore. Nearly half of the habitations have primary education facilities within themselves and 33.57 % habitations covering 93.76% rural population have primary section within one km distance. Around three-fourths of habitations were found having access to upper primary school within three km of distance. It suggests that there are large number of accessless habitations, still to be covered by primary and upper primary schools. According to the data given in *Sixth All India Educational Survey* (AIES), about two-thirds (64%) of the rural population in India is served by the secondary schooling facility within eight km including 5.36% population served within the habitation. More than 15 per cent of the total habitations covering around 9.34% of the rural population are not served by secondary education even within the distance of 8 km (Table 3). However, there has been slight improvement during the interim period of fifth and sixth surveys. During the fifth survey around 21% habitations with 13.46% population were not covered by secondary education within eight km of distance. During sixth survey, only 5 % habitations covering around 18% of total population were found having secondary schools within them.

While discussing the access-related issues, one should consider the fact that, opening a school within walking distance does not ensure participation of children automatically. It is necessary to provide essential facilities to encourage children to attend the school regularly. At the same time, involvement of community and parents need to be ensured in order to maintain regular attendance of children in school. Strategies for universalisation of elementary education also include improvement of physical facilities that should be addressed through appropriate policy and programme initiation.

Equity

Issues regarding access and equity are linked to each other. In the context of existing gender disparity in enrolment, non-availability of school within walking distance becomes very crucial. As per Sixth AIES, around 41% girls are attending primary while nearly 40 % are attending upper primary schools in the rural area. This survey also shows that around 32% girls in the rural area are attending secondary education. In comparison to tje rural area, more girls are enrolled in schools in the urban area. Out of total enrolment in the urban area, girls' share is nearly 46% in primary, 43 % in upper primary and 41.72% in secondary schools. It is simply because the access problem in the urban area is not that acute as in the rural area. Students can manage to attend school in far-off areas because better infrastructure and commuting facilities are available there. Contrary to it, the parents in rural area intend more likely to withdraw girls from the school if it is not located within reasonably accessable distance. They do not allow their daughters to travel long distance mainly due to societal pressures.

In case of coverage for Scheduled Caste (SC) population the sixth survey data reveals that there are 1,20, 517 habitations predominantly populated by SC (more than 50% population belong to SC). The total numerical strength of SC population in these habitations is 5,39,93,578. Out of these habitations, around 82 % are having primary schools within one km, around 78 % are covered with upper primary schools within 3 km and nearly 88 % are having secondary schools within eight km. It shows that a large number of SC-dominated habitations are still to be covered by schools.

According to the sixth survey data, there are 1,94,733 habitations predominantly populated by Scheduled Tribes with numerical strength of 6,41,19, 451. Out of these, 76% are served by primary schools, 60 % have access to upper primary schools and around 70 % habitations are served by secondary schools within a distance of eight km. It is widely known that tribal people tend to concentrate in inaccessible area with difficult terrain. Most often, these areas are covered with dense forest. In view of this fact, access of ST population to school education is more challenging. Letting alone the possibility of providing secondary schooling facilities within reasonable walking distance, it seems a far cry to bring all the tribal children within the web of elementary school education as around 25 % tribal-dominated habitations are still not covered by primary schools.

Provision of access to secondary education of girls and other disadvantaged groups will not be possible unless more habitations are covered by schools within reasonable walking distance.

Quality

Quality of schooling significantly depends on availability of teachers, content and process, evaluation system and institutional development, which are also major policy concerns and need special mention.

Availability of Teacher

Development of quality is closely associated with availability of qualified and experienced teachers. Some reflection on this aspect is needed in the context of Universalisation of School Education. Table 4 shows that there has been substantial increase in number of teachers during last fifty years and percentage of female teachers has become more than double in case of elementary as well as secondary education.

Though the number of teachers increased considerably over the years, in view of improvement in quality, now efforts are to be made to train these teachers in new method of teaching and evaluation. Subject-specific and content-specific training has to be planned after assessing the needs of individual teachers. Along with recruitment and rationalisation of teachers' posts, capacity building of teachers is very important area for policy intervention. It is the teacher, who is responsible for successful transaction of content and process that are subjected to changes with modernisation and diversification of courses, which have been repeatedly emphasised in the policy.

TABLE 4

Increase in number of teachers during 1950-1998

Year	*Primary*				*Upper Primary*				*High/Higher Secondary*			
	Male	*Female*	*Total*	*% of female*	*Male*	*Female*	*Total*	*% of female*	*Male*	*Female*	*Total*	*% of female*
1950-51	456	82	538	15	73	13	86	15	107	20	127	16
1960-61	615	127	742	17	262	83	345	21	234	62	296	21
1970-71	835	225	1060	21	463	175	638	27	474	155	629	25
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1990-91	1143	473	1616	29	717	356	1073	33	917	417	1334	31
1994-95	1181	533	1714	31	732	390	1122	35	956	490	1446	34
1995-96	1187	553	1740	32	756	409	1165	35	982	511	9493	34
1996-97	1205	585	1790	33	768	428	1196	36	1003	539	1542	35
1997-98	1229	643	1842	34	775	437	1212	36	985	536	1521	35

Source: Annual Report, MHRD, 2000-01, p-35-36.

Content and Process

Improvement of content and process has remained a matter of concern in both the policy document of education NPE, 1968 and NPE, 1986. The NPE, 1986 has stressed on bringing about improvement in the classroom. Efforts have been made by the NCERT to update the curriculum. Soon after the formulation of the policy the NCERT brought out its document *National Curricular for Elementary and Secondary Education-A Framework* in 1988. A revised curriculum has been recently prepared and finalised to update and modernise the curriculum. It not only incorporates the recommendations of the policy but also latest developments in the field of knowledge.

Evaluation System

Along with necessary changes in approaches to expansion of schooling facilities as well as improving the quality, the policy of school education needs to look into the matter of evaluation and reforms in examination system. More emphasis needs to be given on internal evaluation and flexibility needs to be brought into the examination system. In case of elementary education, NPE, 1986 suggested for reform of evaluation system by introducing continuous and comprehensive evaluation with focus on remedial measures.

In case of secondary education, POA, 1992 provided following suggestions:

- Implementation of continuous and comprehensive evaluation
- Orientation of teachers in the new evaluation techniques
- Establishment of Educational Testing Services.

Implementation of these recommendations needs lot of administrative and management reforms. It is not only the question of implementation at the elementary and secondary stages, higher education sector will also need to accept this new evaluation system. Attempts have been made in the State Departments of Education for CCE implementation in the internal evaluation and by certain Boards in public examinations. It needs preparation of teachers by pre-service and inservice training by participatory orientation programme. It needs to be implemented from lower to senior secondary at all the stages and in both internal and external examinations. Inter-comparability between the two shall provide positive evidence of standard maintenance by the teachers in both. It is envisaged to de-emphasise the public examination and increase credibility of internal evaluation. It is required to be implemented in a time-bound manner in the interest of quality improvement and acceptability of standards in the society.

Institutional Development and Transformation of Boards

The next issue that has been recognised as an important area of intervention is development of institutions to provide necessary support in the process of quality improvement in case of secondary education. *The Programme of Action*, 1992 has made the following recommendations:

- Mutual interaction and collaboration with various institutions working in the area of secondary education will be strengthened and institutionalised; the role of functions of Board will be redefined to enhance their ability to improve the quality of secondary education. This would require a greater autonomy for the Board and strengthening them in terms of their structure and composition.
- The much-needed examination and evaluation reform will require the Boards of Secondary Education to play a central role in enforcing the norms with regard to academic and infrastructure facilities in secondary education.
- A Task Force will be set up to study the existing position and status of Boards to draw up a scheme to transform Boards into effective instruments.

Boards need to be considered as academic body, rather than only examining authorities. Their role has been comprehensively revised in the recommendations of the Amrik Singh Committee on *the Role of Secondary Boards in India*. Boards should establish relevance and contextuality of the syllabus, update it, support to preparation of textbooks and supportive materials, organise orientation programmes of teachers and evaluators, evaluate and guide schools to develop and improve in curriculum transaction and to certify. Though initiative was undertaken to redefine the roles and functions of Boards, Council of Boards of Secondary Education (COBSE) was yet another voluntary initiative to establish an association of school boards.

Ever since these recommendations have been made, initiatives were undertaken to redefine the roles and functions of boards. The Boards of Secondary Education basically determine the content and curriculum at the secondary stage. This body is responsible for evaluation of students conducting examination at the end of secondary and higher secondary schooling. At the same time for effective functioning of boards, some autonomy and decision making power need to be vested with the board so that it can look into the matters related to effective functioning of the board.

The Boards have to play an effective role as an academic organ to support educational administration to provide access, equity, quality and acceptable competency to the youth of the country. They need to be strengthened with autonomy and empowerment. The Committee report needs operationalisation for implementing the policy.

Concluding Remarks

The foregoing discussion reveals that the policy of school education in India has evolved gradually over a long period of time. The traditional Indian concept of school as well as role of education has provided necessary input to the policy of education. It is not only an expression of political agenda of the Government but it is also integrated with the nation's social and economic goals. It has also been influenced by the international developments. In India, the structure, process and content of policy have been influenced by the experience of colonial past too. It has evolved in the context of national movement with special guidance of national leaders. Simultaneously, the constitutional enactments and amendments, recommendations of various committees and commissions have shaped and reshaped the policy of school education in our country.

The review of different policy documents reflects that over the years, serious concern related to expansion and quality of school education has been expressed. Efforts have been made by different agencies to fulfil the goals set in those policies. Though there has been significant increase in students' enrolment, number of institutions and teachers in entire school education sector, there is still a need to strive for achieving Universalisation of Elementary Education (UEE). The issues related to equitable access, quality improvement and development of *Common School*

System with common structure of 10 +2 are still dominating the entire debate on Universalisation of School Education (USE). It is felt that following areas need immediate attention:

- Since NPE, 1986 is the outcome of wider debate, discussion and consultation, the efforts for universalisation of school education should mainly be guided by the overall framework provided by the NPE, 1986.
- Policy approach for school (Classes I- X) as a viable unit should be developed to facilitate continuity and retention and also to optimise the use of resources.
- It is necessary to re-emphasise on the suggestions given by NPE, 1968 for developing a common school system with common structure of 10 + 2 possibly of 10-year schooling for all to promote competency and skill-based education.
- Mobilisation of community support for improving enrolment as well as for providing financial inputs should be an area of policy intervention.
- Attention is needed for school mapping, horizontal and vertical continuity, alternative and flexible mobility and cohesive involvement of 'State' and the 'Civil Society' in school education.
- Expansion of elementary as well as secondary schooling facilities requires proper planning. Creation of authentic data based on survey and micro-planning should be taken into consideration along with development of effective mechanism and forum to collect, collate, analyse and use these data for planning.
- The facilities for library, laboratory and teaching-learning materials have considerable impact on quality of learning environment and achievement level of learners. These can be provided in a planned way. Concepts of single campus and Sahodaya school complex may be adopted for environment building and optimum use of resources.
- Emphasis on provision of alternative method of open school learning, added with flexibility to bring all the learners of eligible age group in the school system should be given due attention. Mainstreaming of students from alternative to formal school needs suitable strategic interventions.

- Substantial administrative reforms and development of monitoring and evaluation mechanism are needed to facilitate school-based management and to develop school community interface, which are the ultimate goals of decentralisation.
- Quality needs utmost consideration. Recruitment and rationalisation of teachers posting need to be attended urgently. More resources must therefore be provided for preparation of basic didactic materials for all levels and for conducting quality teacher training in different subjects.
- Management, administrative and pedagogical supports to the schools must be improved and adequate financial provision to be made. Policy initiatives for quality improvement includes—
    - Revision of curriculum framework,
    - Provision of infrastructure and physical facilities including building, drinking water, toilet, playground, boundary wall, library, laboratory and teaching-learning materials.
    - Use of IT and Communication Technology,
    - Capacity building of teachers by pre-service and inservice training,
    - Strengthening Boards as independent institution with some autonomy,
    - Institutional support to the schools for planning and implementation for its improvement,
    - Capacity building of concerned institutions and their personnel to take and implement their own decisions,
    - Reforms in evaluation and examination system.
    - Vocationalisation is very important aspect to be attended.
    - Policy perspective needs review and effective implementation. Adequate resource has to be made available for its effective functioning.

While addressing the urgent needs of USE, it has to be remembered that more and more people are aspiring for better quality of life and becoming conscious about the importance of education. The school education policy has to look into several aspects related to expansion without compromising the quality. It needs sufficient investment. Integration of all the sectors of school education with a balance in financial provision is a critical matter for further policy consideration. Concerted efforts need to be made with a sense of urgency on line of suggestion made in POA, 1992:

Time is of essence, and unless we act now, we stand in the danger of once again missing the opportunity of educational reform, so critical not only for development of our nation but for our very survival.

Right policy and plan, prompt action, strong determination and sense of accountability will certainly lead us to the direction of Universalisation of School Education. This is an opportune time to start the initiatives in this direction when the Tenth Five Year Plan is taking shape.

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Educational Planning Since Independence

Progress, Problems and Perspectives

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Education has been recognized as "the most important single factor in achieving rapid economic development and technological progress and in creating a social order founded on the values of freedom, social justice and equal opportunity". It has also been accepted that "programmes of education lie at the base of the effort to forge the bonds of common citizenship, to harness the energies of people and to develop the natural and human resources of every part of the country". The scope of educational development would, therefore, transcend the boundaries of education and would need to be integrally related to broad socio-economic and cultural development of the country.

India, as also the world at large, is undergoing a systemic transformation in which the old notions governing human behaviour are giving way to new revolutionary concepts, in which prejudices based on caste, religion, language, etc. have hardly any place. The field of education itself is experiencing cataclysmic changes. Educational facilities are being extended even to those areas and social groups which, for centuries, had no traditions of education. Further, the old concepts of the 'elitist' education, which laid premium on white-collared jobs is being replaced by the modern concept of education for living. Basically, the following trends are noticeable:

(a) Democratization of education resulting into what may be called an explosion of numbers. This necessitates revolutionary changes both in the structure and content of education;

(b) The need for lifelong education for the attainment of material efficiency and personal fulfilment; new media and technologies of communication and organizational possibilities make the provision of developing and sustaining a learning society;

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(c) Problem of relevance. Traditional education cannot adequately meet the needs of a society which changes at a fantastic speed. The time lag between acquisition and use of knowledge is dramatically reduced by the speed and dimension of changes in modern times. The problem of relevance calls for far-reaching changes in the content, structures, aims and values of education.

Goals of Education

The instrumentality of education in achieving the socio-economic development and cultural regeneration of the country has been emphasized all through the various five year plans. The First Five Year Plan (1951-56) emphasized this role thus:

> Education is of basic importance in the planned development of a nation. The education machinery will have to be geared for the specific tasks, which the nation sets itself through the plan so as to make available in the various fields, personnel of suitable quality at the required rate. The educational system has also an intimate bearing on the attainment of the general objectives of the plan in as much as it largely determines the quality of manpower and the social climate of the community. In a democratic set up, the role of education becomes crucial since democracy can function effectively only if there is an intelligent participation of the masses in the affairs of the country.

These broad objectives of educational planning have been re-emphasized in the successive five year plans. In the Ninth Plan (1997-2002), education has been recognized as "the most crucial investment in human development. Education strongly influences improvement in health, hygiene, demographic profile, productivity and practically all that is connected with quality of life. The policies and approach to investment in education sector and its development assure critical significance from this standpoint".

In this paper, we shall briefly discuss the progress, problems and perspectives of educational development under the five year plans. The focus of discussion would be mainly school education.

Progress of Education

Literacy

In 1951, the percentage of literate persons was about 17 comprising about 25 per cent for males and about 8 per cent for females.

By 1997, the total literacy percentage rose to 62 out of which 73 per cent were males and 50 per cent females. The literacy percentage was, however, 56 for rural areas as against 80 for urban areas. The following table explains:

TABLE 1

Sex-wise Rural and Urban Literacy Rates in India

Year		*Male*	*Female*	*Persons*
1951 (a)	Rural	19.02	4.87	12.10
	Urban	45.06	22.33	34.59
	Total*	24.95	7.93	16.67
1981 (d)	Rural	49.69	21.77	36.09
	Urban	76.83	56.37	67.34
	Total*	56.50	29.85	43.67
1991 (e)	Rural	57.87	30.62	44.69
	Urban	81.09	64.05	73.08
	Total*	64.13	39.29	52.21
1997 (f)	Rural	68.00	43.00	56.00
	Urban	88.00	72.00	80.00
	Total*	73.00	50.00	62.00

Note: (*) For Totals: Peper 1 of 1981 Provisional Population totals.
(a) For rural/urban: Census of India, 1951, C-IV Table.
(d) & (e) Census of India, 1991, Paper 2 of 1991, Vol. II excluding J & K.
(f) 53rd Round of NSSO

Enrolment

There has been a quantum jump in the enrolment at all stages of education. At the primary stage, the enrolment increased from about 2 crore in 1950-51 to over 11 crore in 1998-99. This indicated a growth rate of 1.6 per cent per annum. At the upper primary stage, the corresponding increase was from about 31 lakh to 4 crore indicating a growth rate of 2.2 per cent per annum. Both at the primary and upper primary stage, the growth rates of girls' enrolment outstripped those of the boys. At the primary stage, the growth rate of girls' enrolment was 2.2 per cent per annum against 1.2 per cent for boys' enrolment. The corresponding figures for upper primary stage were 3.4 per cent for girls against 1.4 per cent for boys. At the high/higher secondary stage, the enrolment increased from about 15 lakh in 1951 to 2.8 crore in 1996-97. Girls constituted 38 per cent of the enrolment in 1998-99.

At the university stage, the number of students increased from a lowly figure of about 2 lakh in 1950-51 to about 70 lakh in 1998-99. Girls constitute about 35 per cent of the student enrolment. Besides, distance mode accounted for about 15 lakh students in 1996-97.

There has been considerable increase in the number of educational institutions. The number of elementary schools rose from about 2.2 lakh in 1950-51 to over 8 lakh in 1998-99. The number of secondary schools increased from about 7 thousand to 1.12 lakh in the corresponding period. The number of colleges rose from 370 to about 11,089 during the same period.

There was sizeable increase in the number of teachers — from about 8 lakh in 1950-51, it rose to about 46 lakhs in 1998-99 with female teachers about one-third of the total number. The number of professional colleges rose from 208 to 2,113. Similar increase was registered in the number of institutions of engineering and technology; from 49 in 1950-51, the number of technical institutions at the first degree stage increased to 419 in 1996-97. The output of engineering graduates increased from 2,200 to about 1,00,000 during the corresponding period.

Expenditure on Education

There has been substantial increase in the expenditure on education. From about Rs114 crore in 1950-51, the expenditure rose to Rs50,533 crore under the Departments of Education in 1998-99. In case, the expenditure incurred by other departments is also included, the figure would rise to Rs61,149 crore. In terms of the percentage of the Gross National Product, the figure stood at below 4.

Similar increase was recorded in the outlays/expenditure under the five year plans. In the First Plan, an expenditure of Rs153 crore was incurred on education. By the Eighth Plan, the expenditure rose to Rs25,414 crore. In terms of percentage to the total plan expenditure, there was considerable downslide; from 7.86 per cent in the First Plan, it reached an all time low of 2.7 per cent in the Sixth Plan to rise to 4.5 per cent in the Eighth Plan; still lower than the percentage in the First Plan.

The Problems

In spite of spectacular quantitative expansion, there are still some deficient areas of development in education. We shall briefly mention a few.

Disparate Literacy Levels

There is large disparity between urban and rural areas so far as adult literacy levels are concerned. While 81 per cent of the males were literate in urban areas, only 58 per cent of the rural males were literate. Similarly, there was wide gap between the overall literacy levels of males and females; the variation being 64 per cent in the males and 52 per cent for females. Among the states also, the variations ranged between a low of 38.6 per cent to a high of 89.8 per cent (1991 census). Within the states, there are large variations in the literacy levels of people.

Universal Elementary Education : Still a Mirage

The programme of Universalizing Elementary Education (UEE) have not yet attained full success. In spite of the Constitutional Directive of providing for free and compulsory education to children till they attain the age of 14, about eight per cent children at the primary stage and 42 per cent at the upper primary stage are out of school. A large bulk of non-attending children are in 8 States — Andha Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh and West Bengal. Further, the retention rates are 60.20 per cent at the primary and about 40 per cent at the upper primary stage. The drop-out rates are also high: 40 and 54 per cent respectively at the primary and upper primary stages.

There are large variations among the States in terms of achievement of the target of providing for free and compulsory education to all children up to the age of 14. The gaps relating to enrolment ratios and literacy rates among the SCs/STs, OBCs and the general population are still very wide.

Gross Enrolment Ratios

In spite of substantial expansion of educational facilities, the Gross Enrolment Ratios particularly at the upper primary stage remain very low (Table 2).

TABLE 2

Gross Enrolment Ratio, All India Level

Year	*Primary*		*Upper Primary*	
	Boys	*Girls*	*Boys*	*Girls*
1950-51	60.6	24.8	20.6	4.6
1960-61	82.6	41.4	33.2	11.3
1970-71	95.5	60.5	46.5	20.8
1980-81	95.8	64.1	54.3	28.6
1990-91*	98.1	75.9	79.8	54.6
1998-99**	100.9	82.9	65.3	49.1

* Estimated on the basis of actual child population in the relevant age group

** Provisional. Estimated on the basis of the projected child population.

It would be seen that while at the primary stage, 100 per cent of the boys were attending schools, the corresponding figure for girls was about 83 per cent. At the upper primary stage, the position was still worse. Only 65 per cent of boys and 49 per cent of girls were attending schools.

While discussing the incidence of enrolment ratios, it may be pointed out that the Gross Enrolment Ratios include overage and underage children and, therefore, do not indicate the true position about the utilization of educational facilities. To avoid this situation, Net Enrolment Ratios (NER) have been calculated to exclude overage and underage children. Considered from that point of view, the position is still less satisfactory. The NER for boys and girls was 78 per cent and 64 per cent respectively at primary level in 1997-98. The overall NER at the primary level was 71 per cent, which suggests that at least 29 per cent of children of the specific age group 6-10 were out-of-school in 1997-98. Further, educationally backward States have lower NER than the all India average of 71 per cent.

Various reasons have been adduced to the tardy progress of achieving the target of universalizing elementary education. Besides the socio-economic factors, which discourage the entry of girls to educational institutions, the non-availability of infrastructural facilities has also been responsible for this sordid state of affairs. According to the latest Survey (1996) conducted by the NCERT, only 50 per cent of the habitations had schools within their areas. Further, only 65 per cent of schools had pucca buildings or tents. About 4 per cent of schooling was done in open space. Further, only 44 per cent of schools had safe drinking water. Less than one-fifth had urinals and only 5 per cent of schools had separate lavatories for girls. It is not surprising that these deficiencies result into making the school less attractive to the children as well as the parents.

Slow Progress of Vocationalization

At the secondary stage, the scheme of vocationalization has not succeeded to the desired extent. Against a target of 25 per cent, only about 5 per cent are entering vocational courses. Further, the quality of teaching of science and mathematics has deteriorated so much that it is having an adverse impact at the under-graduate and post-graduate levels.

Quality of Education

It has been mentioned that the quality of education at all levels leaves much to be desired. The huge wastage that occurs due to drop-outs and the inability of students to make the requisite grade has gone beyond affordable limits. This also leads to the production of unemployable graduate, particularly at the secondary and higher education stages. The problem is multi-dimensional and necessitates a comprehensive action plan, which would include curriculum restructuring, improving infrastructural facilities in schools particularly science laboratories and their equipment; providing adequate library facilities, enhancing teacher competencies through pre-service and inservice teacher education, use of computers in teaching learning process and development of audio-video programmes as aid to classroom teaching.

Value Education

There is also need for emphasizing value orientation of students at all stages of education in order to promote tolerance among them and acceptance and appreciation of the diversities that exist in the pluralistic configuration of Indian society.

Resource Constraints

One of the important reasons given for the slow progress of education is lack of resources. It has been pointed out that although subsequent to the recommendation made by the *Education Commission* (1964-66), various National Policy documents have recommended that 6 per cent of the GNP should be spent on education, we have not reached beyond a mere 4 per cent. It has also been stated that, for quite sometime, elementary education was given a raw deal in the allocation of resources. For example, elementary education was given 56 per cent of the total plan allocation for education in the First Plan. In the Fourth Plan, the allocation went down to about 30 per cent. Thereafter, however, there has been considerable improvement with the Eighth Plan registering an expenditure of about 47 per cent.

Inflationary Pressures

The impact of spiralling inflation has also considerably eroded the real value of investment in education. It has been reckoned that although at current prices, the per pupil expenditure increased from about Rs36 in 1950-51 to Rs2224 in 1997-98 indicating 62 times increase, at constant prices, the increase was very modest: from Rs174 in 1950-51 to Rs553, i.e. about 3 times.

The Perspectives

The preceding analysis has revealed that in spite of spectacular progress at various stages of education, a number of inadequacies still persist in the Indian educational system. The programme of future development of education has, therefore, to take cognizance of these factors and build upon them to achieve the goals set out for the purpose. We shall briefly discuss these goals in order to find ways and means of achieving them in the next few years.

Adult Education

The National Agenda for Governance gives top priority to the eradication of illiteracy. Literacy Campaigns have already covered 447 districts, of which 215 are in Total Literacy campaign, 173 in Post-Literacy Campaigns and 59 in Continuing Education phase. In addition, 38 districts have been covered under Rural Functional Literacy Projects. Gradually all districts will be brought under Continuing Education Programme. These efforts are expected to raise the literacy levels of the people. It may, however, be stressed that no programme of this type will succeed unless governmental efforts are backed by people's movement to eradicate illiteracy in India. Further, the content of adult and continuing education will need a periodic review so as to relate them to the changing requirements of the community and those aspiring to be literate.

Elementary Education

Universalization of elementary education has been accepted as the national goal since 1950, when provision of free and compulsory education for children up to the age 14 was enshrined in the Constitution as a part of the Directive Principles of State Policy. In order to achieve this goal, a multi-pronged approach is needed. This would include:

(a) Universal enrolment of all children in schools including girls and the deprived sections of the society.

(b) Provision of non-formal education for school drop-outs working children and girls, who are unable to attend the formal school system.

(c) In spite of the fact that 95 per cent population has access to primary education within a distance of one km not all children participate in school regularly and complete the first cycle of education. This would necessitate, besides other measures to raise the children's participation and retention in schools, incentives like mid-day meals, free textbooks and other facilities.

(d) It would also be necessary to improve the quality of education through, among others, teachers' competency building and insisting on Minimum Levels of Learning (MLLs).

(e) In order to make the programme of UEE a success, emphasis should be laid on decentralization of planning and management of education and to lay stress on much larger community participation.

The other measures to achieve the target of universal elementary education suggested by the Planning Commission are :

(i) Amendment of the Constitution to make elementary education a fundamental right,

(ii) Social mobilization of local communities for adult literacy campaigns and for promotion of primary education,

(iii) Stronger partnership with NGOs and voluntary organizations,
(iv) Advocacy and media campaign for UEE.

Secondary Education

It is assumed that the target of Universal Elementary Education will be achieved by 2012. In that case, its impact on the enrolment at the secondary stage will have to be reckoned with. In order to make realistic estimates of the expansion of secondary education, a number of variables will have to be taken into account. These include realistic population projections of the relevant age structure, organization and management of education, the projected socio-economic development scenario, internal and external efficiency of the educational system, strategies for educational financing and resources mobilization, etc. Obviously, it is difficult to realistically estimate the position of the above mentioned factors.

Yash Agarwal (2000) has attempted to estimate the enrolment scenario of secondary education during the next two decades. He has developed three alternatives of enrolment projections.

Scenario 1: To achieve universal secondary education by 2020 based on the assumption that universal elementary education will be achieved by 2012. Further, that the internal efficiency of the school system would be increased to 100 per cent.

Scenario 2: Takes into account the historically obtained pattern of enrolment and wastage. According to this scenario, the Gross Enrolment Ratio (with improved efficiency) would be 76.1 per cent.

Scenario 3: The accelerated enrolment led by improved internal efficiency would raise the GER to about 93 per cent by 2025.

Whether or not the projected enrolment is achieved, it would be necessary to make arrangements for accommodating much larger enrolment consequent upon the upsurge in enrolment at the lower levels. Besides, expanding the formal system, recourse will have to be taken to the distance mode of learning.

Diversification and Quality Improvement

Besides expanding enrolment at the secondary stage of education, emphasis has to be laid on qualitative improvement and diversification. The programmes of quality improvement should include continuous revision of curriculum, improvement of methods of teaching particularly in Science and Mathematics, provision of academic and physical infrastructure and improving teacher competencies, etc.

The scheme of vocationalization at the secondary stage which has been languishing for a long time needs to be given a spurt. It will have to be related to the need of the economy as also given parity of status along with the academic courses. The objective would be to cover about 25 per cent of students at the secondary stage within the next 10 years. It should also enable students to enter into wage or self-employment after the completion of the secondary stage of education.

Enhanced Financial Inputs

We have already pointed out that there is inadequacy of resources for education as a whole as also, till the recent past, for elementary education. In this connection mention has been made of the inability of the government to provide 6 per cent of the GNP for education as suggested by the Education Commission and reiterated in the policy documents as well as in the five year plans. In this connection, the following points need to be made:

(i) There is no sanctity in prescribing fixed percentage of GNP as government's investment in education. The quantum of resources required for the development of education should be realistically worked out and the government should be persuaded to provide the requisite resources for that purpose.

(ii) The quantum of investment in education has much to do with its progress. But to make it the sole cause of non-achievement of the targets does not appear to be a valid proposition. As pointed out in a UN Report: "Poverty of resources is not the real reason for India's low literacy rate. Many countries, which are poorer than India have managed a much higher rate of literacy. For instance, Tajikistan has a real per capita income of $ 1117 and a literacy rate of 98 per cent, while Vietnam enjoys a high literacy rate of 94 per cent at a per capita income of only $ 1208. Kenya has also high literacy rate of 78 per cent with a real per capita income of $1404. In 1994, India's real per capita income was $ 1348 but its literacy rate was only about 52 per cent" (UNDP: Human Development in South Asia, 1998).

(iii) It may also be stressed that the proper resource management is also an important determinant of the success of educational programmes. In order to achieve the quantitative and Qualitative development of education within a reasonable time span, we shall have to evolve an effective and efficient system of resource management, besides providing adequate financial inputs.

To Sum Up

We have discussed the progress of education under the five year plans. In this connection, we have highlighted the 'lights and shades' that characterize educational development in the post-independence era. It has been noted that although quantitatively the educational system has gone much ahead, there are a quite a few weak spots that still dot the educational landscape.

It has also been pointed out that, besides asking for adequate resources for educational development, the proper management of the financial, physical and academic resources is equally important. This necessitates highlighting the need for harnessing non-monetary resources like bringing about curricular reforms, improving the methods of teaching, making the rigid system of student evaluation more flexible and improving teachers' competencies.

We shall conclude by stressing the need for laying down achievable targets of development at various stages of education and to take concrete steps to realize them within a well-defined time-frame. In this connection, attention needs to be focussed on the Prime Minister's Special Action Plan (SAP) which has stressed the significance of expansion and improvement of social infrastructure in the field of education. This goal has been further elaborated in the National Agenda for Governance, which states:

> We are committed to a total eradication of illiteracy. We will formulate and implement plans to gradually increase the governmental and non-governmental spending on education up to 6% of the GDP; this to provide education for all. We will implement the Constitutional provision of making primary education free and compulsory up to 5th standard. Our aim is to move towards equal access to and opportunity of educational standards upto the school-leaving stage. We shall strive to improve the quality of education at all levels — from primary schools to our universities.

The above is a 'vision' for a comprehensive programme of educational development in the next decade or so. It will, however, have to be translated into a concrete action plan. It should not be beyond the ingenuity of the nation to achieve this laudable goal of making education as an effective instrument of socio-economic and cultural regeneration of a resurgent India.

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The Knowledge Aim in Education

A Philosophical Survey

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Introduction

Education, essentially, is a normative undertaking of initiating one to the good life. There are, therefore, diverse claims on what it should pursue as its aim or goal. Should knowledge, culture, intellect or character be the end of education? Should education be liberal or vocational? These and other such dichotomies arise out of a metaphysic, a world-view and a view of man, a perception of knowledge, a vision of the good and the beautiful and the concept of the *summum bonum*, the highest good for the individual and the group.

Knowledge is one such claimant for the highest good. It has reigned supreme as an aim of education since historic times. It has even been hailed as the final aim of education. Whatever its status as an aim, ultimate or instrumental, there is no denying that transmission of knowledge is one of the time-honoured functions of education. It has, in a sense, dominated the ends and processes of education even to the extent of education being considered as synonymous with knowledge. No wonder, it has prompted generations to ponder over, from time to time, on such questions as: How important is knowledge as an educational good? What kind of knowledge should education transmit and what teaching-learning processes are involved in such a task? These are topical questions today in the context of the new 'knowledge society' and information order that everyone is excited about.

The knowledge discourse centres round a number of questions some of which take us deep into the realm of epistemology. What is to *know* something? How does one come to know? How does one know that what one knows is true? Is knowledge a unity, an undifferentiated monolith of time-tested truths or is it a composition of different 'forms' ? Can knowledge be graded in a hierarchy, as higher and lower? How is knowledge related to wisdom? These are certainly interesting questions to probing minds. But one has also to acknowledge their fundamental importance in indicating directions to educational aims, content and methodologies. Without getting caught in the quagmires we shall in this essay take a quick philosophical round-up of the knowledge terrain. Our greater concern, however, will be with the more earthy question of understanding the full implications to our current concerns in education of what has been canonized in educational literature as the 'knowledge objective' of education.

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The Knowledge Aim in Education

As the overarching aim of education, knowledge is a comprehensive and all embracing concept. The classical dispute between knowledge and character and between knowledge and other claimants like culture was settled by either subsuming the others under knowledge or by treating them as subservient to knowledge. The Socratic dictum *knowledge is virtue* subsumed ethical conduct in knowledge in an attempt to resolve the conflict between the two. Likewise, the Jain thinkers' stand that *samyak jnana* inevitably led to *samyak charitra* established the primacy of knowledge.

Also, from its misty heights of spiritual enlightenment 'knowledge' has traversed a long distance as a philosophical and educational pursuit. Across cultures knowledge and wisdom have been celebrated as the supreme ends of education. In societies with hoary traditions in the realms of philosophical and spiritual achievements they continue to function as the prized goals for education even in these changed times. According to the *University Education Commission* (1948-49), the first such body to be set up in free India for recommending guidelines for national educational reconstruction, the purpose of all education is to provide a coherent picture of the universe and an integrated way of life. Education should give both knowledge and wisdom, the ideal being wisdom along with knowledge, *jnanam vijnana sahitam*, for "we cannot be wise without some basis of knowledge though we may easily acquire knowledge and remain devoid of wisdom". Further, education should provide a sense of perspective, a synoptic vision and a *samanvaya* of the different items of knowledge and oneness of life.

Pursuit of Knowledge in Ancient Indian Education

In Vedic India education was regarded as a means of salvation and self-realization, *mukti* or *moksha*, the highest end of human life. *Adhyatma Vidya Vidyanam.* Learning was sought not for its own sake but as a part of one's quest for *atma jnana* or *brahma jnana.* Education was considered as an integral component of the good life, its central concern being the pursuit of spiritual knowledge. To achieve this end the disciple was to observe *brahmacharya*, a period of austere, ascetic life in pursuit of knowledge forsaking worldly pleasures and study in *gurukula* (an arrangement where the student lived as a member of the family of the *guru* in *ashramas*, or forest retreats) under the guidance of the *guru.*

The *guru* was the institutional response to a socio-philosophico-historical context characterized by an essentially oral tradition in education, non-availability of any other sources of knowledge other than the human teacher, and a restriction of education to a chosen elite. Also, the kind of education the guru was concerned with was *para vidya* or spiritual knowledge. The supreme aim of education was the transmission of such knowledge as would help the individual attain spiritual perfection through knowledge. It had the backing of an epistemology whose basic tenet was that spiritual truths are not realized through the study of books or even independent intellectual reflection but are the outcomes of inherited wisdom handed down from divinely inspired teachers.

Schools and the Knowledge Objective

Knowledge continued to hold sway over education even as its content became secular and its reach extended to the masses in later years. According to the classical version of the knowledge objective, the central concern of education is transmission of knowledge. Curriculum planning is essentially a matter of choosing from the vast fund of human knowledge appropriate content for transmission and its organization for teaching-learning purposes. The central idea was that education must pass on worthwhile knowledge to younger generations. Depending upon the philosophic temper of the times such an objective of knowledge transmission was defended either on the ground that knowledge was an intrinsic good to be cherished for its own sake or for its instrumental value in terms of its utility and power. In whatever form it was advocated, the knowledge objective in education came to mean that at all counts somehow the child should be made to know as much as possible.

When one talks of knowledge, the reference could be to the outcome or result of some human action or to the very process of producing knowledge. An important question before education is: Should education place value on acquisition of knowledge (product) or on developing *process* skills involved in the production of knowledge? Traditionally, schools have emphasized knowledge as product and not as the *act* of producing knowledge. Accordingly, both teaching and testing laid great stress on one's ability to memorize and recall vast amounts of information pertaining to different aspects of reality. Both the perceptor and the disciple related their roles to the vast fund and corpus of knowledge, both spiritual and secular, available for sharing. The educational methods were primarily concerned with the ways through which this fund could be efficiently transmitted to disciples. The oral tradition of knowledge transmission dominated the teaching and learning modes. This excessive stress on knowledge led to such harsh educational practices as rote memorization, drill and recitation. Schools took the shape of 'knowledge shops' and knowledge itself degenerated to bookish information and verbal learning to be acquired under authoritative teachers. It is such corruption and vulgarization of education and knowledge that made the schools the butt of criticism and scorn for many an educational thinker.

Subsequent development in educational philosophy and psychological theory tried to put the knowledge objective in the correct perspective by explaining both the logic of knowledge and the 'psychologic' of its learning, but schools for the most part continued to ignore these findings and carry on with their conventional ways. Knowledge transmission continues to be the most important function of the teacher but to be able to do the part well the teacher must first understand the point and purpose of the undertaking.

Philosophical Perspectives on Knowledge

Issues related to knowledge have provided plenty of grist to the philosopher's mill. Many are its dimensions that have attracted their attention. It would be worthwhile to review philosophical work on important aspects of the knowledge issues to enable us to look at the knowledge objective in a broader frame. These relate to meaning and sources of knowledge, its composition and validation, knowledge and value and a host of other questions. We shall briefly consider a few of these issues here.

Is Knowledge a Unity or Plurality?

The term 'knowledge' has a mystical air about it. The many aphorisms on it — *Ekam Sat, Vipro Bahudha Vadanti* (Truth is One, Wise men call it by different names), *Nahi Jnanena Sadrisham* (There is nothing comparable to knowledge), *Sa Vidya Ya Vimuktaya* (Knowledge is that which emancipates) — carry such an aura. Clearly, these sayings refer to knowledge in a very special and profound sense. However, we are here concerned with the meaning of knowledge as a curricular concern of public education and not in any of its esoteric senses. The question is whether such knowledge is all of the same kind or whether it could be classified and graded. Here, the thesis that human knowledge is not an undifferentiated mass but a composition of diverse kinds (variously referred to as *vidyas*, forms of knowledge, realms of meaning, disciplines) has drawn the attention of philosophers since the earliest of times.

Ancient Indian thought not only classified knowledge as *para* and *apara* but also set up a hierarchy among the different types of knowledge with spiritual knowledge, *atma jnana* or *brahma jnana*, constituting the acme of human achievement. The Upanishads distinguished educational and life values as representing two orders of being. Human nature itself was conceived to be made of five *kosas* (sheaths): *annamaya, pranamaya, manonmaya, vijnanamaya and anandamaya,* respectively, referring to the physical, physiological, psychological, intellectual and spiritual aspects. It was held that education, correspondingly, should do justice to all these orders of being providing for the learning of physical sciences and technology, social sciences, philosophy, religion and the humanities.

The standard analysis of knowledge according to Western philosophy suggests that one could distinguish three types of knowledge: *propositional* knowledge ('knowledge that' or knowledge of what is expressed in true statements); *procedural* knowledge ('knowledge how' or knowledge of how to do things) and *direct* knowledge (knowledge of persons, one's own mental states). Basic to the three types is propositional knowledge. It is this type of knowledge that constitutes the corpus of human knowledge contained in the sciences and mathematics. The questions that have engaged philosophical interest in relation to this realm are: What exactly are the structural features of this domain of knowledge? Is it one complex body of interrelated concepts, a unity or is it a diversity of logically distinct forms? If it is the latter, how many such different forms are there and what is the basic on which they are distinguished? There have been many attempts to present classification of knowledge categories based on the nature of knowledge they deal with, criteria of truth and other epistemological considerations. But what is of interest to education is that they divide knowledge into 'forms', 'disciplines', 'fields' and such compartments. School curriculum the world over reflects this division of knowledge in its structure and organization. The important question before schools is how much of knowledge in its myriad forms is to be transmitted and how considering the structural limitations under which they have to function.

Is Knowledge an a priori Category or a Human Construction?

Viewed from a different angle, it has been suggested that knowledge is not to be result of *a priori* epistemological categories but a human construction. In relation to education, it has also been argued that knowledge, especially the kind that is transmitted through schools does not derive its validity from purely epistemological considerations but has a great deal to do with social factors. This sociology of knowledge has questioned the neutrality of school knowledge and called attention to its social dimensions. According to this view, knowledge is to be viewed as socially constructed as sets of shared meanings representative of the dominant power structure of the society. Knowing the world is not coming into possession of a set of truths about the world which is 'out there' but a matter of coming to perceive the world in particular ways which are largely determined by one's interactions with a particular historical and social context. What knowledge shall be transmitted and in what form are decided not on the basis of epistemological theories but on normative value premises relating to the material conditions of existing social relations. Subject disciplines are not autonomous systems of knowledge but socio-historical constructs of a particular time.

Interestingly, the on-going information revolution has brought the constructivist view of knowledge (shorn of its ideological overtones) back into the centre stage of educational debate in the context of integration of IT in the schooling process. It is suggested that in the IT era the learner should be enabled to construct his/her own knowledge rather than being treated as a receptacle of knowledge handed down by teachers and books. It is argued that the new pedagogy to be compatible with IT should be driven by the principle of learner as a constructor of knowledge calling into aid appropriate technological devices.

'Knowledge', 'Information', 'Learning' and 'Education'

Even more relevant to the discussion of the knowledge objective in the current context is the distinction between knowledge and related concepts. The knowledge explosion phenomenon and the advent of computers have prompted educationists to revisit the notions of education, knowledge, information, understanding and a host of other notions and examine afresh their implications to the objectives of schooling and education.

The knowledge objective got trivialized when knowledge was treated as synonymous with information. Equating knowledge and education with information has been criticized by practically every educational thinker, the world over. Swamy Vivekananda severely admonished book learning and rote memorization. He said: *Education is not the amount of information that is put into your brain and runs riot there, undigested all your life... If I had to do my education once again I would not study facts at all. I would develop the power of concentration and detachment and then with a perfect instrument collect facts at will... If education were identical with information, the libraries would be the greatest sages in the world and encyclopaedias the Rishis.*

The point is that knowledge is not the same as information. Information and facts provide the basis on which to construct knowledge but this construction calls into play higher powers of the mind than mere memorization and storage of information. To know in the full sense of the term is not only to be in possession of facts but also to understand their meaning and be able to apply that understanding to gain control over the environment.

Nor is learning a simple matter of receiving impressions from the outside world by a passive and absorbing mind. It is a complex and active process of development, a kind of growth aided by a conscious and creative intelligence at work. It is a profound personal experience, a process of self-actualization, a coming to know of oneself by one's own efforts. Learning is a liberating force. It is coming to perceive reality with an enlarged selfhood. It involves knowing and understanding the world, discovery of truth, invention and creation. It is a creative and regenerative influence that brings about a new awakening in an individual. To promote such learning, to set up the necessary conditions for the self-realization of the individual and to direct the development of one's potentialities towards their highest values is the supreme purpose of education. Knowledge as its core concern should be concerned with the development of the learner in this larger sense. This point needs special emphasis in the context of the knowledge society talk currently dictating our social thinking.

Pursuit of the Knowledge Objective: The Process of Knowledge Acquisition

Knowledge, as already pointed out, is not the same as acquisition of information and the ability to reproduce. A taxonomy familiar among educationists includes under cognitive objectives such mental processes as comprehension, application, analysis, synthesis, evaluation and judgement arranged in a hierarchy. Whether such a classification is the correct one is not the question before us. The point is that cognitive development encompasses a variety of intellectual skills and processes and any process of knowledge development should do justice to all of them. The justification for extolling knowledge in education is essentially that knowledge develops the higher powers of the mind.

Secondly, the cognitive development of a child takes place in stages, each stage characterized by certain developmental characteristics. Teaching to be effective should be adjusted according to the developmental stage of the child. In other words, the principles of growth should be given proper consideration during teaching.

We need not go over here all the details relating to actual teaching procedure to be adopted in developing knowledge in students. The process of knowledge acquisition has been summarized by Prof. Peters as follows. All knowledge begins with experience — perceiving, thinking, feeling. But experience by itself does not constitute knowledge. To pass as knowledge raw experiences in the from of sensations and perceptions require to be classified and interpreted by the application of the powers of the mind. Children exhibit at certain ages spontaneous curiosity in what things are and why they happen and also a natural desire to master certain things. Good teaching makes use of child's first-hand experience but, as already pointed out, experience alone will not help the child to understand or discover. To enable the child to do that, the right sort of questions at the appropriate time are to be asked and its experience to be guided in certain directions. A certain amount of practice is required for the child to develop the necessary concepts.

Knowledge does not however end with mere classification, ordering and structuring of first-hand experience using conceptual schemes. In order to understand this experience grasp of principles is essential. Understanding of principles does not depend upon accumulation of extra items of knowledge. Rather it requires reflection on what we already know so that a principle can be found to illuminate the facts. It should however be noted that understanding of principles has no meaning unless one has acquired a lot of knowledge, for principles only illuminate the low level rules or assumptions. In science, for instance, there could be no appeal to principles unless there were a mass of empirical generalizations which could be seen to fall under them.

Mere passing on a body of knowledge, even with principles immanent in them without any systematic attempt to explain and justify them or to deal honestly with phenomena that do not fit does not constitute education. Preparation of fixed beliefs without any attempt to explain or justify would amount to indoctrination and not teaching. What is needed is the development of a critical attitude. The critical attitude consists in the attempt to explain and justify beliefs, questioning the fundamental assumptions on which the beliefs are based, looking into the evidences for belief, probing into pre-suppositions and thinking in a clear, coherent and structured way. The importance of critical thinking in a democratic society can in no way be overemphasized. In fact the success of democracy rests on the people's ability to think critically and not to be swayed away by propaganda. The knowledge objective rightly pursued would ensure the development in the individual of these qualities of mind.

The Interplay between Knowledge and Value

Knowledge is not all 'head', it has something to do with the heart as well. Although philosophy makes a distinction between knowledge (epistemology) and value (axiology) the interconnection between the two has special importance for education. It may be noted that in any genuine process of teaching knowledge and value get intermingled. The teaching of a subject basically aims at the development of knowledge and understanding pertaining to the aspect of reality under consideration. Pursuit of knowledge and truth, whether in the sense of knowing the truth in secular terms or by transcending the limits of human experience in search of the ultimate truth constitutes the highest value of life and has been acclaimed all through the history of humankind. The teacher when he is aiming at the development of the spirit of inquiry in the students and the creation of the desire to know and to find out is not merely passing on information but is more importantly developing the value of knowledge seeking and "the joy of understanding" hailed as the noblest pleasure by philosophers everywhere.

Apart from the general consideration of knowledge itself as a value, there are other more particular values characteristic of different school subjects. School subjects are no more than pedagogical constructions from out of the various generic intellectual disciplines and every discipline, looked at axionoetically, is a repository of values, attitudes and dispositions which are immanent in its structure and methodology. Science, for example, is associated with such values as free inquiry and commitment to truth and mathematics with such qualities as of mind as logical thinking, neatness and precision. The teaching of a subject is, in essence, initiating the student to its foundational discipline or 'form of knowledge' characterized by a unique logical structure and distinct criteria of truth. The proper teaching of a subject thus involves not merely the passing on of information contained in the subject but even more importantly inculcating in the student certain qualities of mind and heart involved in the pursuit of that discipline. A student of science who is unaware of the respect for truth involved in its learning, a student of history who is insensitive to historical relics and monuments, a student of philosophy who does not value clear thinking and synoptic vision, for example, have not *really* learnt their subjects. All this is not to suggest that the different academic disciplines are to be overtly used as a means of value education, but only to stress the point that students should be made aware of the interface between knowledge and value.

Knowledge as an Instrument of Empowerment

To 'empower' a person, literally speaking, is to give power to the person. Power here does not mean a mode of domination over others but a sense of internal strength and confidence to face life, the right to determine one's choices in life, the ability to influence the social processes that affect one's life and the direction of social change. The notion of empowerment has, in a way, reinstalled the knowledge objective to its central place in education. Genuine knowledge empowers and empowerment is what education is all about, we are told.

In the worst days of schools functioning as knowledge shops, philosopher Whitehead contemptuously referred to the knowledge transmitted in schools as 'inert'. That knowledge as an objective of education gets vindicated only when it makes a change in the life of the learner has been declared by many an educational thinker. Swami Vivekananda expressed his recipe for empowering education thus: *They are to be given ideas. Their eyes are to be opened to what is going on in the world around them and they will work out their own salvation. Give them ideas — that is the only help they require and then the rest must follow as effect.*

The above is a highly loaded quotation. In tone and intent it voices forth the concern that has been expressed by many a modern thinker that real education is that as would enable the individual to develop his/her capabilities to understand the world they live in and deal with it in a way that is individually fulfilling and socially beneficial. The celebrated *World Declaration on Education for All* defined the basic learning needs of all as those comprising essential learning tools and learning content required by human beings "to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions and to continue learning". Vivekananda rightly termed his education as "*man-making*" education.

Implied in the concept of empowerment as acquisition of power to do something one wants to do are two fundamental assumptions. The first is that one knows how to go about achieving one's goal. The other is that at present one does not have the required power or resources to achieve the goal. A prerequisite to empowerment is the eradication of ignorance. Ignorance about the many aspects of the physical and social world may arise from lack of access to information due to illiteracy. A first necessary step would be to provide such information and knowledge as would help one to understand and gain control over their environment. Empowerment entails the provision of access to such information and knowledge. But mere possession of information would not empower people. What is also needed is the capacity to convert information into useable knowledge for solving concrete problems. The knowledge objective of education is to be seen in this light if it is to be relevant in the modern context.

The Knowledge Objective and Information Technology

IT: Both a Challenge and an Opportunity

With the IT revolution promising a veritable haven of learning resources for all knowledge seekers — a utopia of 'learning webs', virtual classrooms and what have you — and providing endless opportunities to learn lifelong and at one's own pace serious questions are being raised about the traditional functions of schools, teachers and of education itself. Under special focus is the knowledge transmission function of education. Nearly two decades ago a 'futuristic' scenario of education (for the period 2001 to 2025) under the influence of ICT was described thus: *The formal institutions will be devalued. The teacher will not be considered as the only or even predominant source of knowledge. There will be a multiplicity of the means of learning. Teachers will be learning facilitators and schools learning resource centres. Learning will never end and will be lifelong. More auto-instructional devices—language laboratories, libraries, data banks, audio-visual equipment providing for learning at one's own time will be employed. Computers may increasingly enter the educational field. The importance of literacy may be reduced as one can get knowledge by listening. There may be a return to an oral culture.* Two decades hence we may not have seen the scenario actually unfolding on the above lines. But the speculation remains as relevant today as it was in the past. We can still ask: What happens to the perennial knowledge objective of education in the IT society?

We have repeatedly stressed the point that knowledge development does not mean storing information. The analysis of the process of knowledge acquisition has made it clear that conceptual thinking, understanding of principles, laws, generalizations and critical and reflective thinking are the essence of teaching for knowledge. In other words, what constitutes the true aim of education in relation to knowledge is the development of mind and its powers and not stuffing the mind with a mass of information. Viewed in this light IT presents us a glorious opportunity to focus on the really serious objectives of education.

IT has been hailed as the defining technology of our times. It will lead to redefining education, schooling, teaching, role of teacher, we are told. In a landmark seminar on *Information Technology and the Schooling Process* concerns were expressed on such issues as: psychological basis of man-machine interaction; the need for alignment of learning technology with learning objectives; the classroom reality vis-a-vis the exotic technology; the conflict between *Smart Schools* and our rigid school education; the question of equity. Not all of these issues are India-specific. Some concern the entire global educational community. The most important question, however, concerns the traditional function of the school as knowledge transmitter. It will be sometime before it is discussed in depth and an educational philosophy commensurate with the demands of the *Knowledge Society* is articulated.

The general directions of change are clear enough. These are identified as: the traditional paradigms of learning and teaching should make way for new definitions of learning and teaching; learning is a process of construction of knowledge and schools should encourage questioning, exploration, problem-solving, decision-making and group work; students should be taught heuristic, algorithmic strategies and trained in thinking *with* the new IT. The assimilation of ICT into the school curriculum would imply that schools should function as places where children are enabled to access and process information and construct their own knowledge rather than as traditional 'knowledge shops'. The new focus should be on development of information processing, inter-personal and 'learning to learn' skills.

In any appraisal of the impact of technology on education we should note that technology, at best, is only an instrument of education. True, technology should not be looked upon as a plethora of mechanical gadgets that serve as mindless, value-free instruments for whatever ends their owners prescribe. But we should not allow technology to control education. Education is a value. Technology should not be allowed to *define* education in the sense that educational goals and objectives should not be controlled by conditions of technological possibility. There is also the danger of the ethos of the IT society—efficiency, utility, economy—posing a danger to the pursuit of knowledge as an intrinsic end and the pursuit of liberal and humanistic studies. We should not allow this to happen. To sum up, the answer to the question whether IT would undermine the knowledge objective or exalt it ultimately depends on our own valuations and decisions. Technology functions only as a means to whatever we human beings desire to achieve. The crucial question is: Is knowledge the only thing we ought to value in education? What kind of knowledge?

If used with wisdom the knowledge objective under the influence of IT will undergo a positive transformation in its pursuits. Education can henceforth be freed from the burden of tasks having essentially to do with the transmission of information. It can now turn towards the higher objectives of understanding and application. Education is not the same as information transmission. It is concerned with initiating the child into a form of life based on the highest ideals and values of the human spirit. In this quest, pursuit of knowledge has to be made subservient to this higher goal of education.

The Lessons of the Knowledge Aim to Education and Schooling

From the foregoing discussion of the knowledge aim and its many facets one can draw the following implications for future educational policies and schooling practices:

- *Educational systems and processes should henceforth be guided by the broader goals of education and focus greater attention on the harmonious development of human personality in all its richness —physical, intellectual, social, moral, spiritual and aesthetic.*

Long before the onslaught of IT educational thinkers had pleaded for a proper understanding of the purposes and processes of education and warned against reducing education to a mechanical activity of information transmission. It was pointed out *ad nauseum* that education is not the same as instruction but an attempt at the total transformation of the human personality in all its richness. In this transformation teachers are never meant to limit their roles to information fillers. A silver lining for the knowledge objective is that in future there will be greater demand on teachers to function more as *educators* than as teachers in the conventional sense. In this educational quest knowledge continues to play the central role, but the concern now will be of a different *genre* from the traditional one of information transmission.

The time has now come to realize these educational intentions into action in the context of the immense didactic potentialities of ICT. For one thing, in the emerging scenario schools should focus more on genuine novelties, understanding and meaning of events and information rather than on things which machines can do more effectively and efficiently.

- *School subjects not as ends in themselves but as means to develop the higher powers of mind.*

The stress in teaching should not be on meaningless acquisition of factual information. Facts are necessary on which to build students' understanding of underlying concepts and discovery of relationships. Students should be made to observe, inquire and find out for themselves as far as possible and teaching strategies should always encourage the natural desire of children to know and to understand. Teachers should provoke student thinking by appropriate questions. They should also encourage students to make intelligent guesses and intuit, to reason analytically and to develop their powers of synthesis. In other words, every effort must be made by the teacher to encourage student thinking in different forms and develop their mental powers and to deemphasize passive absorption and rote memorization.

- *Pedagogical efforts should concentrate on the perfecting of tools of knowledge and enabling students to "learn to learn".*

'Learning to learn' is the ruling paradigm of education today although it is yet to inform and shape the still traditional classroom methods and practices. Learning to learn is a broad principle of educational method. It includes acquisition of work habits, awakening of motivations, training in the use of learning resources of different kinds, techniques of self-instruction and ways of getting information and knowledge. The range and variety of skills and competencies is enormous — reading, writing, communicating through speech and writing, discussion, critical thinking, analysis, choosing, deciding, observing, intuiting, reasoning, creating, imagining and so on. The crucial point is that learning is not a process of passive reception and storing of information transmitted by the teacher or the printed word. It is an active and interactive method of the learner doing things, exercising mental faculties and seeking out knowledge on one's own effort. Education should help one to acquire mastery over these different instruments of knowledge by training one's mental capabilities rather than treating the learner as a passive receiver of information. When so organized education can effectively meet the challenges of the information revolution and give proper shape to the evolving knowledge society.

- *Students should be enabled to understand the 'form' of knowledge underlying the subjects they are taught.*

School subjects are pedagogic versions of the underlying knowledge forms or disciplines. A discipline is not just a collection of disjointed facts but a logical unity having a structure. It also represents a distinctive way of looking at things and a method of producing knowledge. At some stage students should come to understand the nature of the subjects that they are studying. They should know, for example, what kind of knowledge science gives and how the same is produced. They should also know how nature could be looked at from different epistemological standpoints and understood and what is involved in such understanding. They should know how historical, philosophical thinking is different from mathematical, scientific thinking and the logical status of knowledge that these different kinds of thinking generate. The point is that the students must understand in some form, even if it is very elementary, the "logical grammar" of the subjects that they are studying and the distinctive way of thinking that characterizes the pursuit of a particular form of knowledge.

- *School teaching should focus on the unity of knowledge and not only on its diversity.*

Search for meaning and unity of knowledge is a cardinal principle of teaching. Teacher should exercise immense care to avoid presenting their subject as a water-tight compartment. At the early stages, especially, knowledge must be presented as an integrated whole. The danger of premature specialization must at all costs be avoided. While this may be a question of reorganization of the curriculum, teachers also should help in this by making the students aware of the interface between different subjects and by providing instances of correlation between them. Even more important is the need for inter-disciplinary approaches to the understanding of phenomena.

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Resources for Education in India

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Introduction

This chapter focusses on growth in public expenditure on education in India during the post-independence period. It analyses a few select issues relating to the flow of public resources to education. An exhaustive attempt cannot be attempted, given the space constraints.

Total Expenditure on Education

In absolute terms, the increase in expenditure on education at national level is very impressive: the educational expenditure increased by about 900 times from Rs 55 crore in 1947 to Rs 50 thousand crore in 1998-99, the latest year for which such data are available. But this impressive growth is belittled by: (a) rapid growth in population, (b) phenomenal increase in student numbers, and above all, (c) escalation in prices,

While the total expenditure increased by 900 times, in per capita terms the increase between 1950-51 to 1998-99 has been by about 160 times only. In contrast, the expenditure per pupil increased only by 74 times during the same period, from Rs 36 to Rs 2642. These figures are at current prices and the impressive picture remains no more so impressive, if they are converted into constant prices. After adjusting these figures with the help of national income deflators, it can be noted that the real rates of growth[1] in total, per capita and per pupil expenditure on education are very small. For instance, as compared to a rate of growth of 13 per cent in current prices, the total expenditure on education increased at a rate of growth of 5.8 per cent only in

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[1] The rate of growth is estimated by fitting the equation: $Y = a b^t$, where Y is the variable for which the rate of growth is estiamted, *t* the time period, and *a* and *b* are intercept and regression coefficient estimated, b being defined as $1 + (r/100)$, *r* being the rate of growth

real prices during the four decades (1950-51 to 1997-98). The real rate of growth of per capita expenditure on education was about one-third of the corresponding rate relating to current prices; and in per pupil terms the real growth was less than one-fourth of the growth in current prices. On the whole, the real rate of growth of total expenditure on education during the last four decades is marginally higher than growth in national economic indicators, proving Wagner's (1890) law in education too, that public expenditure increases at a faster rate than national income.

The decadal trends are indeed important to note. Looking at the real rates of growth, one notices that the 1950s was a period of rapid growth in total expenditure on education; and the 1960s was also a very favourable period for education, as in many developing and developed countries of the world. The global disenchantment with education, partly attributable to growing educated unemployment on the empirical scene, and the emergence of screening and credentialism theses on the role of education on the theoretical front, caused a great setback for the growth of expenditure on education during the 1970s in the third world. India has had also a similar experience. The 1980s marked the revival of faith in education. 'Human resource development' became a favorite slogan by the mid-1980s, of which education is regarded as an important component. Expenditure on education increased during the 1980s at a reasonably high rate of growth, particularly compared to the preceding decade. However, the rate of growth — both in total and per capita — have not reached the levels of the 1950s. The rate of growth could not be sustained in the 1990s, may be because of the effect of economic reform policies introduced in India at the beginning of the 1990s. It would be interesting to interpret these trends in the framework of public finance, particularly as a phenomenon of "displacement effect" (Peacock and Wiseman, 1961), according to which, public expenditure on social sectors like education get displaced due to economic problems created by wars and other crises, and more importantly, public expenditure levels do not go back to the former (pre-war) levels even several years after the economic crisis (see also Tilak, 1998).

Allocation of Resources

What is the priority given to education in the national development framework? This question is generally answered in terms of a few select indicators such as the share of education in GNP, share of education in the government expenditure, share of education in the five year plan outlays, etc., some of which are discussed below.

Share of Education in GNP

Share of education in gross national product is the most standard indicator of national efforts on the development of education in a given society. This reflects the relative priority being accorded to education in the national economy. This indicator is also found to be superior to several other indicators.[2] On the recommendation of the Education Commission (1966), the Government of India (1968) quantitatively fixed a target of investing six per cent of national income in education from the public exchequer by 1986. Over the years, expenditure on education has increased remarkably. At the inception of planning (1950-51) India was spending 1.2 per cent of GNP, and by 1996-97, it was trebled, the proportion increasing to 3.6 per cent, even though the growth is not smooth. This is indeed a remarkable increase. At the beginning of the 1990s, the government (revenue) expenditure alone, increased to 4.9 per cent; but it slided down to below four per cent from the mid 1990s onwards.

However, it needs to be underlined that this proportion is less than (a) the requirements of the education system to provide reasonable levels of quality education to all the students enrolled presently, (b) the requirements of the system to provide universal elementary education of eight years for every child of the age-group 6-14, and consequent growth in secondary and higher education, as universalization of elementary education in a comprehensive sense, includes universal provision of resources, universal enrolment, and universal retention (see Tilak and Varghese, 1990), (c) the recommendations of the Education Commission (1966), the resolve made in the National Policy on Education 1968, reiterated in the *National Policy on Education 1986* (Government of India, 1986), and the revised Policy (1992) to invest six per cent of GNP in education,[3] and (d) the proportion of GNP invested in education in many other developing, leave

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[2 and 3] See Coombs (1985), and Tilak (1986)

alone developed, countries of the world, including Africa. It should be noted that it would be a stupendous task to reach a level of six per cent of GNP before the end of the Ninth Five Year Plan, i.e., by 2002, as promised by the Government, from the current level of less than four per cent. Among the countries of the world on which such data are available, Tilak (1990b) found that India ranked very poorly, almost at the bottom, with respect to this indicator of national efforts on education, and amongst the countries with a population of 100 millions or more, India figured at the bottom except Bangladesh. The need to raise this proportion considerably needs no over emphasis.[4] Almost all — from laymen to researchers — plead for the same, though there are no detailed estimates on what should be the desirable and feasible proportion of GNP.[5]

However, this proportion has increased considerably in a few states including in some of the backward States. The variations in the educational efforts of various States do not fall into any systematic pattern. The coefficient of correlation between the two is estimated to be small, negative and statistically not significant.[6] Based on similar results on coefficients of correlation for earlier years, Tilak (1987, 1988) concluded that it would not be necessarily true that a state or nation invests more (or less) in education, particularly when measured as a proportion relative to total national or state income, than others because it is economically rich (or poor). For example, a state like Bihar which is economically a poorer state invested as high as 6.2 per cent of her SDP on education (1996-97) and Punjab which has the highest per capita income invested 2.8 per cent, and Haryana

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[4] Instead of pursuing this goal vigorously, attempts are being made to redefine the target, and play with not so confusing terminology, in violation of the spirit, and letter of the recommendations made by the National Commissions on Education, and approved by the Government of India, to show that the target has already been achieved (e.g., see Kolhatkar (1988). See Tialk (1990b) for a comment on Kolhatmkar's approach and analysis.

[5] Norm-based estimates (based on cost functions and enrolment projections), by Tilak (1994b) suggested that it should be about 8 per cent by 2000 AD. Rao (1992) compared the cost of education in India with developed countries like Singapore, and estimated that about a quarter of our GNP needs to be allocated to education. Seth (1985) felt that provision of appropriate education might require about 10 per cent of GNP.

[6] The coefficient estimated on the basis of the 1990-91 data is -0.3739. See also Tilak (1987) for similar results on an earlier set of data.

2.9 per cent. Even states like Rajasthan, Jammu and Kashmir, Bihar, Assam, Andhra Pradesh and Orissa whose per capita incomes are about half or less than half of that of Punjab invest a higher proportion of their incomes on education than Punjab. As Coombs (1985, p. 164) aptly concluded, "the priority a particular society attaches to education in comparison to other public goods and services is most strongly influenced by that society's cultural background and traditions, its present goals and aspirations, and not least of all, the nature of its political system and climate. With other things being equal, some societies, including some of the poorest will undoubtedly invest considerably more of their scarce resources in education than other societies" (emphasis added).

This may mean that the level of economic development is not an important determinant of public expenditure on education. It is, in fact, necessary to analyse the determinants of expenditure on education in detail, but it is rarely attempted, as it has been strongly felt that allocation of resources to education is not based on any sound rational principles.

This also raises at the same time some questions: if the state income is low (or declines over the years), even a relatively small amount of expenditure (or stagnant level of expenditure) on education gives an impression of a high (or increased) proportion of state income being invested in education. Yet this is the best available indicator on the efforts of a state devoted to the development of education.

The Education Budget

Perhaps a more important gauge of what is actually happening is revealed by the priority given to education in the government budget. Unfortunately there is no 'education budget' per se in India. To arrive at an education budget, one has to look at the education components in the union budget, and more importantly in the budgets of all the states and union territories. Then only one can present a complete idea of the education budget in the country. We do not have such an "integrated budget presentation" in our country.[7] The union budget fails to provide any significant idea, as its contribution is relatively very small compared to the state budgets for education.

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[7] see footnote on next page

Budgetary resources flow into education from the Departments of Education, and also form other Departments (Ministries), both at the central and state level. While the share of the Department of Education is substantial, other departments also contribute significant amounts to the education budget. For example at the central government level, in addition to the Department of Education, as many as a dozen Ministries/ Departments are found to be spending on education, important ones among them being Department of Women and Child Development, and Ministry of Social Justice and Empowerment. There may be several other Ministries/Departments spending on education, details on which are not available. Over the years, the later increased in relative proportion from 8.5 per cent in 1971-72 to 17 per cent of the total education budget in 1996-97.

Further, in the budget framework, resources flow from government in two forms — in the revenue account of the budget and in the capital account. While in the revenue budget the share of education sector is reasonably large, in the capital budget the share of education is infinitesimally small, the net result being pushing down the share of education in the total budget. But most researchers, planners and general official documents (e.g., Selected Educational Statistics) confine to revenue budget only and give the impression that larger allocations are being made for education in the budgets. For instance, it is generally argued that about a quarter of the budget goes for education. This is true with respect to only revenue accounts of state budgets. If central and state budgets are considered and both revenue and capital accounts are taken into consideration, as shown in Figure 1, the total budget resources available for education forms around ten per cent only. It was 10.8 per cent in 1996-97.

Further, we also notice that while in the central budget the share of education sector is 31 per cent (four per cent in revenue budget, and nil in the capital budget), it is a little less than one-fifth of the budgets of the states and union territories (22 per cent in the revenue budgets and 1.3 per cent in capital budgets) in 1996-97. It may also be noted that even though the share of

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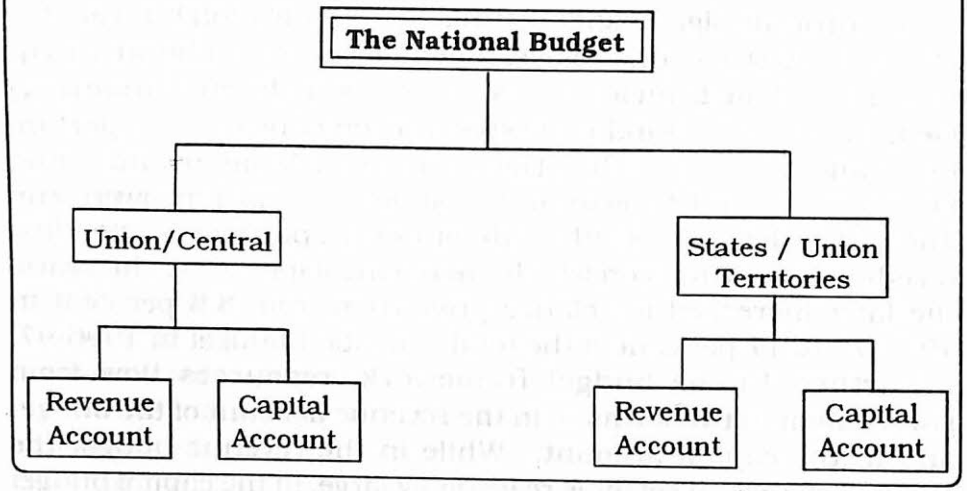
[7] In this context, the Analysis of the Budgeted Expenditure on Education (Department of Education, Ministry of Human Resource Development) is a very valuable document, though it is published with a gap of 3-4 years. However, it does not give other details like the revenue incomes of the education sector that are found in the general budgets, which facilitate estimation of budgetary subsidies, etc.

Figure 1



education in the (revenue) budget oscillated frequently, over the years, on the whole, in the central budget it has increased from 1.6 per cent in 1967-68 to four per cent in 1996-97, and in the state budget, it has been around 20 per cent.

In both central and states' budgets revenue expenditure on education is substantial, and the capital expenditure forms a very small magnitude. But the budgetary terminology referring to 'revenue' and 'capital' accounts is not in conformity with the standard terminology in Economics. For example, even expenditure on capital items like construction of buildings could be incurred out of revenue expenditure. Hence this classification does not seem to be serving any meaningful purpose (see Rangarajan, 2001).

The share of education in the revenue budget remained more or less stagnant, around 20-25 per cent over the years in several states. Most states devote roughly one-fifth to a quarter of their revenue budgets for education. According to the latest available statistics, only Kerala and also surprisingly Bihar and Assam devote more than one-fourth of their respective revenue budgets for education. In case of Kerala it is almost consistent though it has marginally declined, while in quite a few states it is rather erratic. Inter-state variations in per capita expenditure on education are indeed very high and do not seem to have declined noticeably.

Education in Five Year Plans

Five Year Plans are an important instrument of development strategy adopted by India. And hence, it is important to examine the priority given to education in the Five Year Plans. Expenditure on education in the five year plans has shown a rapid rise since the inception of the first five year plan in the country in 1950-51. The absolute expenditures/outlays for education multiplied by more than 50 times since the first five year plan. The first plan invested Rs 153 crore on education. The expenditure rose to Rs 7.7 thousand crore in the seventh five year plan. The allocation for the eighth five year plan was more than doubled further to reach a level of Rs 25 thousand crore. Thus, it seems that increasingly larger resources are being allocated to education. But when we look at the figures in real prices,[8] expenditure on education declined from the third five year plan onwards up to the fifth five-year plan. The expenditure on education in real prices in the fourth five-year plan was less than four-fifths of the expenditure in the third plan and the expenditure in the fifth plan was about three-fourths of the expenditure in the fourth plan. It is only in the sixth plan this trend was reversed and the expenditure in the sixth plan was about double the expenditure in the fifth plan and is slightly above the expenditure in the third plan in real terms; and the expenditure in the seventh plan was about 1.8 times the expenditure in the sixth plan.

The relative importance given to education in the five year plans has declined gradually over the years, from 7.9 per cent in the first five year plan, to 2.7 per cent in the sixth five year plan. It is only during the seventh five year plan, and later in the eighth and the ninth five year plans, this declining trend was reversed.[9]

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[8] The expenditure in the Five Year Plans is spread over five years. Conversion of the actual expenditure into real expenditure in a Plan is made with the help of national income deflators (derived from GNP in current prices and GNP at 1980-81 prices corresponding to the total period of each Five Year Plan. See also Tilak (1987).

[9] The declining share of education in the total plan outlays/expenditure is a phenomenon common to several states also. E.g., in Andhra Pradesh the trends were most erratic, and in Uttar Pradesh and Bihar a somewhat consistent declining trend in the relative priority accorded to education in the Five Year Plans can be noted. See Tilak (1991). See also Tilak (1995).

The eighth five year plan allocation was quite high, 4.5 per cent; but it was still much less than the proportion allocated in the first five year plan, for that matter it is less than the allocations made in the first four five year plans. The allocation in the ninth five year plan is likely to be much higher, as the available estimates for the first four years of the plan reveal.

Not only has the relative importance given to education in the plan expenditure gradually declined until the sixth five year plan, but also the relative share of education in any five year plan, including the seventh and the eighth five year plans, has been the lowest, despite the hymns sung in praise of education in every plan document. The closest figure is three per cent allocated to health in the seventh and the eighth five year plans. Several major sectors received much higher than the allocation made to the education sector.

One can note that there are three important phases in the allocation of resources to education in the five year plans. During the first three five year plan periods, the allocation to education as a proportion of total five-year plan expenditure had been more than five per cent. Even though it declined in the second plan, the decline was immediately checked in the third plan. The second phase, consisting of the fourth, fifth and the sixth five year plans, was characterized by a consistent decline in the relative share of education. The seventh, the eighth and the ninth five year plans form the third phase when efforts are made to check the declining trend and to substantially increase the allocation to education.

A bunch of important questions arises in this context that need to be thoroughly investigated. Some of these questions are: (i) what is the actual mechanism of allocation of plan resources for education? (ii) what is the rationale behind such a drastic cut in the outlays? Does such a reduction in monetary outlays not result in more than visualized reduction in real resources? (iii) and lastly, what projects are dropped or scaled down and in which parts of the country? No plan document or the mid-term reviews of the plans provide answers to any of these questions.

It is obvious that if any scientific criterion formed the basis for initial allocation, a cut in the allocation would not be possible later, except when physical targets are also slowed down. Thus the resources allocated for education in five year plans seem to be mere crude figures, if not magic numbers. It is further necessary to note that, as the outlays are seemingly not based on any cost calculations and projections, they are inadequate for the targets laid down in the very plan (see e.g., Tilak, 1983).

Summary and Policy Implications

Education systems like all modern organizations run on money. It is widely felt that essentially constrained by resources, many educational plans and reforms either failed or did not take off in several developing countries including in India. The Constitutional Directive of universalization of elementary education in India, which was to be achieved four decades ago still eludes. Secondary and higher education systems are also associated with several problems, many of which could be related to paucity of funds. Though huge amounts of investment are made in education in the post-independence period, they are not adequate to meet the modest targets of providing quality education to the children. As a result, the five decades have been a period of under investment in education (Tilak, 1997a). Despite official recognition by the Government of India that education constitutes a 'crucial investment for national survival,' the pattern of allocation of recourses to education and allocation of resources within education remains far from satisfactory, judged in terms of adequacy, efficiency and equity. The priority accorded to education in the Five Year Plans, government budget expenditures and in GNP needs to be improved.

Towards Improvement

At the very outset, we should note the need for a perspective plan for education in the country. Absence of a long-term plan in education is perhaps one of the main sources of ills of the system.

The government has been promising to allocate at least six per cent of GNP to education. While there is no sanctity about the six per cent, it is important to note that it is the bare minimum that the government has to allocate to education.

When several sectors of the education system still suffer from inadequacies of several kinds of resources, the need for stepping up the share of education in plan outlays is obvious. The proportion allocated in the first five year plan may be considered as the minimum level that has to be ensured in the forthcoming five year plans.

Out of the total budget, there is need for increasingly larger share to be devoted to education. Tentatively one may aim at providing at least 25 per cent of the budget to education immediately, but it may be raised to 30 per cent soon. With respect to devolution of resources by the Centre to state governments for education, the goal should be to promote regional equity in educational development.

It is important that all levels of education suffer from inadequacy of funds. Hence all levels of education need to be provided more resources. Putting one sector of education against another in the allocation of resources will be counter-productive. Improvement in the quality of education also requires specific investments in quality related inputs in education. Similarly, sizeable investments have to be made to promote equity in the system. This is critically important when economic reform policies cause severe problems to the weaker sections.

Above all, it should be recognized that education is a long-term investment that contributes to socio-economic development quite significantly, besides being an end in itself in human development. No nation goes bankrupt by investing in education of her people.

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Policy Research and School Education

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Educational policies play a vital role in shaping the future education of the country. Broad policies formulated at the national level, in turn, generate policies at the state level. These relate the process of education with the development of the society so as to achieve particular goals. These goals are determined by the stage of evolution the society has reached and its potential for further development. The system of education through its policies, make deliberate and systematic attempts to introduce some effective inputs so as to initiate development at individual level and consequently lead to larger social change. Education as a process of development would mean to evolve certain meaningful policies based on certain models and structures through which changes and improvements in the system of education could be brought about. Research, as a problem-solving activity, helps in the development of such models and structures. This paper examines the nature of policy research and presents a framework for understanding policy research in the field of education. It also analyzes the status of policy research in the context of school education in India.

The important aspect of educational development in India during the post-Independence period has been the continuous and sustained efforts to evolve a system of education relevant to the life, needs and aspirations of the people. It aimed at translating the constitutional directives into reality. After the country attained Independence in 1947, systematic efforts have been made towards preparation of educational policies in India. Several Commissions and Committees were set up to achieve this goal. The University Education Commission (1948-49), the Secondary Education Commission (1952-53), and the Education Commission (1964-66) reviewed the problems of education and formed the base for the formulation of India's Education Policies.

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The most notable outcome of the 1968 policy document has been the acceptance of common structure of education throughout the country and the introduction of 10+2+3 pattern of education, which has been implemented by almost all the states in India. The National Policy on Education (NPE), 1986 was based on an in-depth review of the whole gamut of the educational situation and was formulated on the basis of national consensus. While the comprehensive framework enunciated by the NPE (1986) continues to be relevant, the developments during the years since then and the experiences gained in its implementation through various programmes had necessitated certain modifications. These changes were introduced in the revised NPE (1992) and POA (1992).

The 42nd Amendment of Constitution in 1976 includes education in the Concurrent List, thus, investing the Parliament with the authority to legislate on education. Its implications required a sharing of responsibility between the Union Government and the States. While the role and responsibility of the states in regard to education remained essentially unchanged, the Union Government accepted the responsibility to reinforce the national and integrative character of education, to maintain quality and standards, and to study and monitor educational requirements of the country as a whole. A working partnership has been evolved between the Central and the State Governments to implement educational development programmes. Further, most of the schemes are formulated and implemented by the State Governments. Of the centrally sponsored schemes, some are implemented through the State Governments and others directly by the Central Government.

In order to assist and advise the Government of India in the formulation and implementation of policies and programmes in the field of school education a number of specialized institutions at the National Level have been set up. One such institution is the National Council of Educational Research and Training (NCERT) which has been assisting and advising the Union Ministry of Human Resource Development (MHRD) and State Governments in formulation and implementation of Policies and Programmes and other initiatives in the field of school education. The National Institute of Educational Planning and Administration (NIEPA) is also assisting the MHRD in its efforts to improve the educational planning and administration in the country. The University Grants Commission (UGC) assists the state and central universities for advanced training and research at the higher education level. The Indian Council of Social Science Research (ICSSR), Indian Council of Scientific Research (ICSR) and the Indian Council of Agricultural Research (ICAR) also support research projects of educational significance for tackling problems in a scientific manner. A few institutions like the Institute of Social and Economic Change, Bangalore have been focussing to study education as a broad process in the context of social, cultural and economic life. The Union Ministry of HRD is also advised and assisted by the Central Institute of Indian Languages (CIIL), Central Institute of English and Foreign Language (CIEFL), Rashtriya Sanskrit Sansthan and the Kendriya Hindi Sansthan on matters related to development of languages in the country.

Nature of Policy Research

A policy refers to the system or measures adopted by the government of a country in the management of public affairs. Viewed in this context, educational policy refers to a systematic and well-designed action adopted and pursued by the government to bring out improvement in educational scenario of the country. McClellan (1971) points out that a policy statement is: (i) intended to be a binding guide on actions of those designated by the statement; (ii) enforceable and enforced by the society (large or small) which formulates it; and (iii) formulated and adopted through a political process — that is, a process which acknowledges the reality and legitimacy of conflicting interests and desires among its participants.

All societies, in order to ensure smooth running of its different sub-systems, adopt certain courses of actions or policies. Research and other available evidences play an important role in the development and evaluation of a policy and thus, help in realizing the goals of national development by generating necessary processes. Fundamental or basic research is primarily concerned with the formulation of a theory. Its major aim is to obtain and use the empirical data to formulate, expand or evaluate theory and thus, provides sound basis for applied research. Policy research helps in generating desired knowledge so that appropriate solutions to problems are worked out through suitable applications. In the context of national development, it is necessary to take into account the relative importance and priorities of development, needs and problems that deserve greater attention and efforts on the part of researchers.

Development is considered an on-going process. Development programmes launched in various sectors including education lead to progress and will also create problems. In order to find suitable solutions, further efforts are needed by taking objective decisions based on full and objective knowledge of relevant facts and information about various aspects of development. For this purpose, policy research assumes a significant role. Yadav, Koul, Roy and Lakshmi (1989), while emphasizing the role of research policy in the perspective of national development, point out that objective decisions based on research are helpful for setting the directions of development activities. Through research activities attempts are made to provide facts and other relevant data to facilitate objective decision-making. In the context of education, these decisions have implications for policy-makers, school administrators and teachers. Policy-makers and educational administrators expect educational research to help them in planning and execution of reforms for improving the system of school education so as to respond to the changing social context. The teachers as classroom practitioners look for such results which help them in improving teaching, learning and evaluation techniques and strategies.

The role of research — fundamental or applied — conceived in the developmental context reveals that it is necessary to formulate suitable research policy so that the process of knowledge generation and that of development support each other. It involves designing, managing and reporting research with specific purpose of implementing policy decisions, assisting or monitoring their implementation, or evaluation of the policies. Policy research has direct application to current issues in educational policy or practice. It consists of careful, systematic attempts to understand the educational process, and through understanding to improve its efficiency (Nisbet, 1985).

Policy research includes survey work or any comparable data gathering, which enables policy-makers or practitioners to base their decisions on evidence rather than on prejudices or guesswork. It may include the search for solutions to pressing educational or social problems, implementing policy decisions, monitoring and evaluating initiatives in educational practice, and experimental studies to compare alternative educational methods. Policy research also covers evaluation of existing policies and retrospective analysis of past policy, the purpose of which is to help in making better policy decisions in the future.

Policy research is, thus, distinct from other forms of educational research in terms of purpose rather than in choice of subject or method. The end product of policy research is decisions or recommendations for action. Since policy research (also known as responsive research) operates within the context of existing policy or practice, it is limited in its generalizability. It is more likely to have an impact on the specific policy or practice for which it is designed. The impact of this kind of research, however, is incremental rather than radical. Policy research modifies the existing situation, protecting it from running into troubles by identifying or anticipating problems. It may, however, challenge established policy by demonstrating its impracticability, and may even develop or explore alternative policies.

Research and Policy Development

The analysis of policy has become an academic study of growing importance in recent years. Weiss (1977), reviewing the contribution of social research to public policy, argued that research has only a limited influence in decision-making. It is one of the many inputs to the complicated process of policy making in which there are many other competing forces. In this process of policy-making, there are several functions which research can perform. First, it can strengthen the individuals and administrators against many pressure groups in the policy-making arena. The second function of research is to ensure that action will be achieved what is intended by a policy. For this purpose, research is used to work out the details about how to implement decisions, by identifying the obstacles, including opinions and attitudes of those who are likely to oppose implementation of policy, and also testing out solutions to overcome these obstacles.

The types of policy research include: (i) surveys to collect relevant facts as a data-base for decision; (ii) experimental studies to resolve controversies; (iii) developmental studies for implementing policies such as implementation of an innovation accepted as desirable like the new curriculum procedure which requires pilot testing to establish its feasibility; and (iv) evaluation studies.

Policy Research Process

Policies must be analyzed and evaluated in different ways, depending on their nature and scope. Indeed, policies vary in their purpose, complexity, target groups, distributions of costs and benefits, and location of their impact (DeClercq, 1997). There are substantive policies which reflect what the government should do, and the procedural policies that spell out who is going to take action and through which mechanism. Material policies provide real resources to some interest groups, whereas symbolic policies remain more theoretical about needed changes.

Generally, the analysis of policy consists of three sets of categories (Malen & Knapp, 1997). The first set of categories emphasizes policy ends and means. This set develops the notions for the purpose, process, outcome and 'theories of action' (Argyris & Schon, 1982). Purpose refers to the nature, context, content, and aims of the policy action, the ends sought. It includes questions such as: (i) whether the policy is based on a good understanding of the multi-dimensions of the problems on the ground? (ii) Is it based on acceptable principles? ; and (iii) Does it contain coherent or mutually contradictory goals and, if so, how does it deal with that tension? This type of evaluation is known as intrinsic evaluation (deClercq, 1997). Process refers to the interactions through which policy evolves, how policy is initiated, formulated, enacted, implemented, conducted and revised. Outcome refers to the anticipated as well as unanticipated consequences of policy. 'Theory of action' refers to the premises regarding how policy is formed and how it works to produce effects. The second set of categories encompasses related assumptions about policy actors, policy problems, the role of information, and the role of values in policy-making. The final category highlights implications for influencing policy. It addresses how people throughout the system shape policy developments and forge stronger policy — practice connections. Taken together, these categories direct attention to what the policy is supposed to accomplish, how it is formulated, and whether it attains results commensurate with its intents.

Evidently, policy research involves both theoretical and empirical analysis of the policy. The theoretical research may include analyzing the policy based on a conceptual framework, critique, and social problem commentary. The empirical evidences may be collected employing surveys, field studies/ experiments, and case studies.

Implementation research is broadly concerned to investigate the structures and processes within which policy objectives are put into practice (Fitz, Halpin & Power, 1994). These are generally, conducted to know the reasons for the successes or failures of certain programmes and policies.

Policy implementation can be analyzed in two ways. First, the top-down approach which argues that effective policy making should reckon with and anticipate implementation problems in order to make strategies accordingly and influence or constrain the agents of the implementation process (Gunn & Hogwood, 1982). It is, however, felt that the ability of policy-makers to have decisive control over the organizational, social, and political processes that effect implementation can never be sufficiently close or rooted in the dynamics on the ground to produce anything but vague, ambiguous recommendations which may be in conflict with one another.

The second and probably a better way to approach policy implementation is through the backward mapping approach (Elmore, 1980). This approach includes backward reasoning from the individual and organizational choices that are the hub of the problem to which the policy is addressed, to the rules, procedures and structures that have the closest proximity to those choices, to the policy instruments available to effect those things and hence to feasible policy objectives. Thus, backward mappings starts with the lowest level of the implementation process in order to generate a policy and establish a policy target at that level. It will then back up through the structure of the implementing agencies and is directed by two questions: What is the ability of this unit to effect the behaviour that is the target of the policy; and what resources does the unit require to effect this behaviour? In other words, this approach advocates a decentralization of power and a maximization of discretion at the lowest point of the implementation process because it believes that the closer one is to the source of the problem, the grater one's ability to influence it.

A Model for Policy Research

Figure 1 presents a model for policy research. The research studies may focus on policy formulation or its implementation or both. Studies related to policy formulation may analyze the policy in terms of its purpose, process, outcome, or assumptions. It may also include the role of information and values in policy formulation. Policy implementation may be assessed either by employing top-down approach or backward mapping approach. The methodology for these researches could be theoretical and/or empirical. On the basis of the information so collected, a set of recommendations may be proposed which may be used to bring out necessary modifications in the policy.

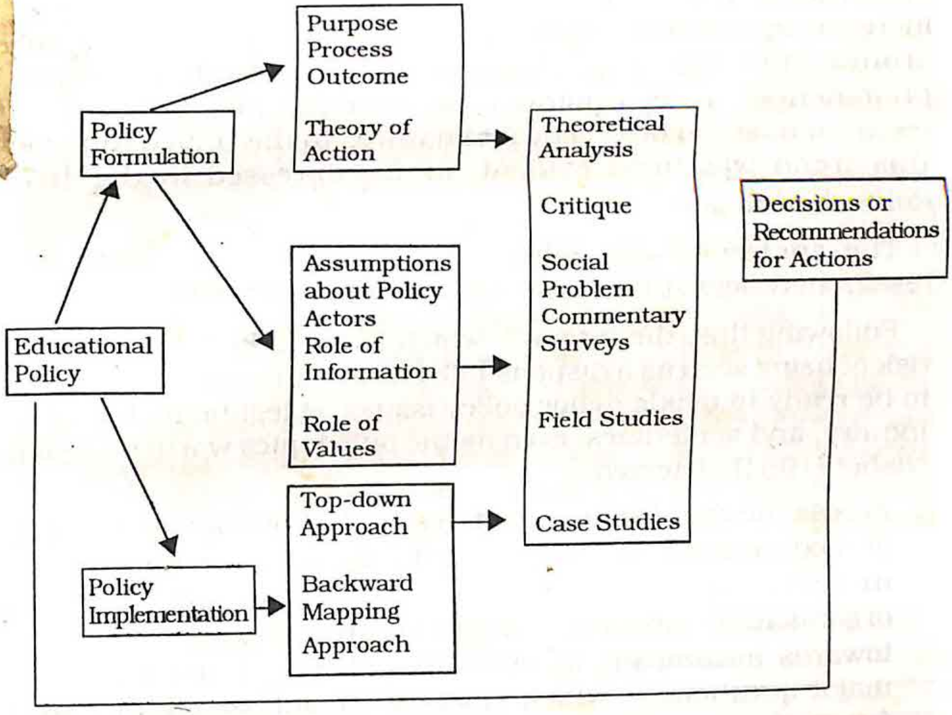

Figure 1: *Schematic Representation of the Steps involved in Policy Research*

Trends in Educational Research

A look at the international scenario indicates that since the beginning of 1970s, more stress is being placed on policy related work. It does not mean that early work in education had no policy implication. The notable work of Alfred Binet, for example, to find out a way to distinguish truly mentally "defective" children from those who were not succeeding in schools for other reasons in the early 1900s, laid the foundation of psychometry. Similarly, the work of Thorndike and others in the 1920s on the psychology of the elementary school curriculum aimed to influence educational policy and practice. However, as Nisbet (1985) noted, "the distinction between practical and theoretical research was not stressed at that time. The two kinds of inquiry were seen as complementary". During 1950s, an awareness was generated that educational research could make a significant contribution towards policy and practice. The following decade saw a beginning of the public funds being made available for research in education and by the beginning of 1970s there was a massive increase in publically funded research in education. It was around this time that the issue of accountability gained prominence. It was pointed out that the publicaly funded research ought to be practical in nature. In the United Kingdom this trend was most evident, as is expressed in the 1971 Rothschild Report:

> The customer says what he wants; the contractor (the researcher) does it if he can; and the customer pays.

Following this, the research which is not linked to policy is at risk of being seen as a dispensable luxury, and researchers have to be ready to tackle major policy issues as legitimate topics for inquiry, and sometimes, even as the only topics worth studying. Nisbet (1981) observed:

> Across the world, educational research is now an integral part of modern administrative procedures. Increased investment in research had led to ...a concern that the conduct, organisation, and funding of research should be directed towards maximizing its effect on policy and practices. The major questions to which answers are still sought are: what forms of research should have priority? And who is to decide?

The systematic collection and analysis of relevant information using social science research methods to help formulation/detailing out policy, to formulate action plans/strategy, to assess the performance and to evaluate outcomes constitute the domain of policy research. The difference between the policy research and the body of research in social science areas lie in the purpose, scope and adequacy to make decisions. The researches done in the social sciences at large are like readymade garments with their own sizes and designs. They may not satisfy all the requirements. On the other hand, policy researches are like customized designs serving a specific context in time and space. But there will be no difference in methods and techniques of conducting policy research as compared to social science research in general. Its contribution to formulation of policies is more in the form of arranging the data and predicting the effect of policy generated causes and effects and some times they give feedback on current status and outcomes.

The body of educational research available at any given point of time can definitely be used for starting a policy discourse and generate more focussed studies for policy formulation on education in India. It may be mentioned that systematic efforts have been made to promote educational research in India after Independence. Efforts were made in the past and are now being continued in the NCERT in the form of surveying educational researches conducted in India from time to time. Currently, most of the studies completed till middle of the nineties have been abstracted. Trend Reports of the researches on various aspects of school education covering researches conducted till 1992 are available in the form of Surveys of Researches in education (Table 1). Five such surveys have been completed and the work on the sixth survey has been initiated. The first survey in education primarily contained 729 research abstracts, the second survey contained 806 research abstracts, the third survey contained abstracts of 1481 studies, the fourth survey included abstracts of 1652 researches and the fifth survey contained 1828 research abstracts.

Table 1: *Number of Studies Included in Different Surveys of Research in Education

	Areas	*Surveys*									
		I	%	*II*	%	*III*	%	*IV*	%	*V*	%
1.	Philosophy of Education	28	3.84	14	1.73	39	2.63	47	2.84	38	2.07
2.	History of Education	42	5.76	48	5.95	45	3.03	34	2.05	8	0.43
3.	Sociology of Education	56	7.68	100	12.40	251	16.94	145	8.87	43	2.34
4.	Personality, Learning and Motivation (Psychology of Education)	60	8.23	80	9.92	226	15.25	205	12.40	142	7.75
5.	Guidance and Counselling	42	5.76	40	5.21	39	2.63	27	1.63	13	0.70
6.	Tests and Measurement	82	11.24	70	8.68	83	5.60	34	2.05	-	-
7.	Curriculum, Methods and Textbooks	69	9.46	71	8.80	100	6.75	46	2.78	22	1.20

Table1 reflects how the areas of research have moved from the period of first survey to fifth survey of educational research. By the period of first survey maximum number of studies were related to educational evaluation and examination, which was followed by development of tests and measurement. The educational evaluation procedures and examination have been the subject of extensive research. Related to this has been the development of tests and measurement procedures for the assessment of psychological and educational characteristics of children. The development of tests was at its peak in the decades 1960s, and 1970s and there was a decline in subsequent years. One, however, notices decline in the number of studies related to these areas over the years.

In the first survey relatively more number of studies related to curriculum, sociology of education, psychology of education, educational administration, and teacher education were reported. The curriculum related studies were at their peak by the period of the third survey and thereafter a decrease in the number of such studies is observed. The studies in the field of sociology of education recorded about five-fold increase by the period of the third survey but thereafter a decrease in the number of studies is observed. The studies in the field of psychology of education have consistently increased over the years; though a decrease in the fifth survey is observed. The decrease may be due to the fact that the contents of educational psychology split into different chapters, such as cognitive, social processes, motivation and mental health. A considerable improvement is observed in the area of educational administration and management. Teacher education is another area where one observes considerable growth over the time. Foundation areas, such as philosophy of education, history of education, economics of education have not shown considerable growth. The area of programmed learning disappeared after the period of the first survey, as has been the case elsewhere due to less importance given to behaviourist approach.

In the second survey areas such as comparative education, higher education and non-formal education were also included. To examine the role of technology in education, increasingly greater number of studies have been conducted over the years. Language education was additionally included in the third survey as a separate area.

The fourth survey saw the subject-specific and the discipline-specific researches such as social sciences, science, and mathematics education as well as early childhood education, elementary education and vocational and technical education. Also, included were areas like special education, women's education, and education of the disadvantaged. In majority of these areas one observes an increase in the number of studies from the fourth to the fifth survey. In the fifth survey, studies related to physical education, art and aesthetic education, distance education, policy research were also covered. The studies considered in the research surveys mainly include doctoral theses of Ph.D. degrees. Independent studies/projects undertaken by various research institutions and university scholars were relatively less reported.

Since education is an applied discipline, all researches covered in these surveys in education do carry some implications for policy development. However, majority of these studies unnecessarily stretch themselves to derive some policy implications so that their findings are not dismissed on the ground that the research is only of academic interest and has no practical utility. Since the first survey of research in education, different reviewers, in their chapters such as sociology of education, economics of education, psychology of education, guidance and counseling, tests and measurements, curriculum development and so forth, have indicated the lack of utility of researches in drawing significant policy implications for education. Majority of these researches have been categorized as theoretical. As stated earlier, the Fifth Survey of Educational Research includes 1828 abstracts of doctoral dissertations and independent studies. Unlike the earlier four surveys, the Fifth Survey contained a chapter on 'Educational Planning and Policy Research'. A total of eight studies (Ph.D. 4, Independent studies 4) provided data for this chapter. It also contains reference to 18 other studies, having policy implications but has been reported in other sections because of the primary emphasis inherent in them. Thus, out of 1828 studies included in the Fifth Survey, only 26 studies (0.014%) were directly related to policy research. These studies focus on certain aspects of policy such as financing, curriculum, access, personnel, quality of process and expected levels of outcomes, decentralization, etc.

One of the main reasons for low priority to research in education and dearth of explicitly policy-oriented research can be traced to the centralized nature of school education systems. The number of commissioned projects is negligible and insignificant in relation to size of the population, variety of educational contexts, and diversities in socio-economic contexts. Most of the commissioned projects are of disciplinary in nature and have been carried out by the university scholars than the professionals rooted in practice.

Most often not only the educational institutions depend on the government for resources, but also the nature of textual materials and criteria for certification and the common examination system at the end of different stages of schooling are all prescribed with little scope for institutional choices and initiatives. Hence, the policy priorities get reduced and take place only at the relatively macro-level government structures. As already stated, most of the policies in education in the Indian context have come from the discourse generated by various commissions constituted by the governments at the centre and the states. To what extent these commissions used information generated through policy researches is a moot question and very difficult to answer. The data from census, periodic surveys carried out by statutorily constituted bodies like NSSO, NCERT, etc. and Annual Reports of the government departments find mention in these reports.

Relative to the size of the country, the variations in educational contexts and size of investment on education, the incidence of research-based policy formulation and implementation is negligible in the Indian contexts. Most of the policy decisions and plans appear to be based on the experience and knowledge of the persons immediately responsible for the task. To what extent the expansion, development and quality of education over the years can be accounted to planned research-based approach is difficult to judge. Still it may be stated that the quantitative growth of schools in the post-independence period may be accounted to a greater extent to policy researches (mainly the educational surveys).

In view of the above discussion related to policy formulation and review, it may be inferred that the macro policy formulation at the national level in India continued in the century-old tradition of committees and commissions. While there are considerable policy researches providing useful information in policy formulation, research-based policies at the national level are not evident. India is a vast country with a population of over 100 crore. It is predominantly rural society with wide disparities in the availability of facilities in education. The wide variety and diversity in languages, religion, culture, and regional unevenness has contributed to the creation of a rich cultural heritage in the country, but at the same time, they also pose serious challenges to the planners by contributing indirectly to these disparities. Hence, our system of education has to be geared to the developmental needs of the country.

Keeping in view the National Policy on Education (1986), modified in 1992 and the *Programme of Action* (1986 and 1992) and the new thrust of the Government for quality improvement in school education, the NCERT prepared and published the *National Curriculum Framework for School Education* (NCFSE) in 2000 which emphasizes relevance, equity and excellence as the three pillars at the school stage. It also highlights some new concerns in school education. For the effective and meaningful implementation of the various issues reflected in the NCFSE and other concerns of immediate nature in school education as stated in the National Policy on Education (revised) 1992, policy research need to be given high priority at the national, state, institution and individual researchers and practitioners level to provide useful data and research-based information for reformulation of the policy at the national and state levels. Action-oriented policy research will also be helpful in diagnosing the difficulties/problems and also suggest remedial measures.

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Bridging the Gaps in School Education

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What are the gaps in school education and how are they to be bridged? This question can be answered in one, rather simplistic, way. Whatever be the gaps, the basic problem in school education is its inability to deliver. Both the quality of teaching and the educational infrastructure are unspeakably poor except in a very small number of schools—less than 5 per cent of the total, if one may venture a guess. To put it another way, the key issue in school education is lack of quality and not the existence of a few gaps which need to be bridged.

Having said this however, it would be an act of omission not to identify the gaps. Briefly put, these are:

(a) Is school education terminal in character or is it a preparation for entry to college as has been happening for a long time?
(b) The entire issue of teacher training as also the related one of their inservice training.
(c) The focus on knowledge and the absence of a focus on the imparting of skills.

II

The decade of the 90's stands out as a decade when impressive progress in regard to the spread of literacy took place. The latest census figures confirm this fact. Most of the success, if it may be said, was owing to the use of agencies other than the formal system of education. Even in respect of the formal system, the progress was reasonably good as the data would illustrate at next page.

The total number of schools , as is obvious, went up by 11.79 per cent. While this rate of expansion could have been higher, it was not all that deplorable! What is disquieting however is the fact the percentage of increase in the rural areas was 9.67 whereas in the case of urban areas it was 25.11. Since the bulk of the population (over 70 per cent) is still to be found in the rural areas, this is even more disquieting.

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TABLE

C. Schools	***1986***	***1993***	***Increase (96)***
1. Total Number of School			
(i) Rural Areas	634908	696297	10.96
(ii) Urban Areas	100863	126189	7.99
(iii) Total	735771	822486	11.79
2. Primary Schools			
(i) Rural Areas	475823	507581	6.67
(ii) Urban Areas	52907	62874	18.84
(iii) Total	528730	570455	7.89
3. Upper Primary Schools			
(i) Rural Areas	113087	129246	14.29
(ii) Urban Areas	25929	33559	29.43
(iii) Total	139016	162805	17.11
4. Secondary Schools			
(i) Rural Areas	38862	47870	23.18
(ii) Urban Areas	13698	17694	29.17
(iii) Total	52560	65564	24.74
5. Higher Secondary Schools			
(i) Rural Areas	7136	11600	62.56
(ii) Urban Areas	8329	12062	44.82
(iii) Total	15465	23662	53.00

(Source: Sixth All India Educational Survey: Selected Statistics, NCERT, 1998)

It is not a question of numbers only. The painful fact is that the kind of schools which are to be found in rural areas leave a lot to be desired. While single teacher schools have come down, it cannot be asserted that there is a separate teacher for every single class as it ought to be. In any case, the shortage of teachers is more acute in the rural areas than in the urban areas.

Why are the rural areas so consistently neglected? One obvious explanation is the overall neglect of the countryside. The kind of planning that has been undertaken over the decades is biased against the rural areas. The anti-rural bias of education becomes even more significant when the rate of growth of schooling at different levels is looked at from the comparative point of view.

At the primary level, the urban schools expanded at the rate of 25.11 per cent as against rural schools which expanded by 9.67 per cent. At the upper primary level the rate of growth was 19.11 per cent in the urban sector but 29.43 in the rural sector. It is after the upper primary level when those who were likely to drop-out had already dropped out that the percentage of growth starts increasing. At the secondary level, it is 23.18 per cent (rural) as against 29.17 (urban). At the higher secondary level, the picture changes radically. It is 44.82 per cent (urban) as against 62.56 (rural).

That the pattern of growth at the secondary and the higher secondary level is different from what happens at the lower levels has its own significance. How does the hunger for education in the rural areas suddenly leap forward at the secondary level? As stated above, those in the rural areas who manage to survive after the upper primary level are anxious to forge forward. Pressure on the government in the rural areas therefore, becomes intense and a higher percentage of such schools got established than had been happening at the earlier stages. Likely enough, this trend will be further accentuated when the next round of data collection is undertaken within the next 3-4 years.

The rate of growth is the highest at the higher secondary level as the table given above indicates. What is the explanation for it? This issue is primarily linked with the pattern of economic growth that the country is following and perhaps will continue to follow.

During the last 50 odd years, the population of the country has trebled. This means more pressure on land, more migration to cities, and more people looking for jobs in sectors other than agriculture. Employment depends upon the rate of economic growth. Consequently, we are caught in a situation where the rate of growth cannot grow faster because the population is high and the high population factor makes it difficult to ensure a higher rate of economic growth. It is a vicious circle. When to this factor is added the fact that, during the first 40 years after 1947, the rate of growth was a little over 3 per cent and the rate of growth of population was only marginally higher than the rate of economic growth, the incidence of poverty could not but hover around the existing level.

If there was one avenue of growth, it was in the urban sector. During these five decades, the proportion of the the urban population has gone up by about 10 per cent. To speak in terms of the argument under discussion, there is intense pressure in the rural areas for entry into the urban sector. It finds expression, apart from other things, through the emphasis on the growing number of higher secondary schools. While data later than the early 1990s is not yet available, it seems reasonable to believe that this pressure for more jobs has not got relaxed or deflected in any way.

This trend is confirmed when we look at the rate of growth of student enrolment at the college level. According to the UGC data, since 1989-90, student enrolment has been growing by over 3,00,000 every year. For a few years, the numbers went up beyond 3,00,000 per year too. Even the pattern of enrolment at the post-secondary stage underlines this fact; 88 per cent of the students are enrolled at the undergraduate level while no more than 10 per cent go for post-graduate education. Why do students join colleges in such large numbers? This has implications also as far as enrolment at the higher secondary level is concerned. In point of fact, the basic issue which needs to be raised is: is school education to be regarded as terminal in character or is it a preparation for entry into college?

The answer to this question is that whatever obtains in other countries, in our country the higher secondary level of schooling is a preparation for entry into college. Even to raise the question whether school education is terminal in character or not looks like a bit of an impertinence. This is for the simple reason that not every child who joins the primary school goes up to the secondary education. Only those do who manage to survive the ravages of the system.

According to all India figures, by the time students go up to the Class V, almost 60 per cent have dropped out. The figure has been declining of late and perhaps it will be safer to talk in terms of 50 than 60 per cent, drop-out rate. Each one of these children more or less drops out largely because of poverty. Children, when they are growing up, are drawn away from school for a number of reasons, the most important of them being the inability of the family to keep the child at school. Other factors like poor instructional arrangements, distance of the school from the house, (this matters a great deal in the case of girls), the failure of the school to impart meaningful or useful education and several other factors also work in a negative way. The most crippling of them however is poverty. The process of attrition remains operative even at the upper primary level; another 20 per cent or so drop out at that level.

To come back to the original argument, who joins the secondary stage of education then? Mainly it is the survivors of the primary school system. Most of them look forward to entry even into college. If the transition rate from school to colleges is around 60 per cent, the explanation is mainly the high drop-out rate at the earlier stage of instruction.

The founding fathers of the Constitution had a somewhat different perspective. They laid down in the Constitution (Article 45) that every child would be required to be at school between the age of 6–14. However well-intentioned that was, in actual fact, it is precisely during those years that the drop-out rate is so very high. Another fact which that requires to be noted is that 14 is about the age when students enter the secondary stage of education. In our situation, as described above, there is hardly any choice left. Sheer compulsion has forced the majority of them to drop-out.

In almost all developed countries, the UK for example, the compulsory stay at school is up to the age of 16. In certain countries, it is even higher. In educational terms, it is at this stage that students either opt for an academic course or a vocational course. In our case the choice is made more by the family situation than any other reasons.

As a result of this peculiar situation in our country, secondary education which is anything but vocational—more of that later—impart a kind of instruction which prepares them for entry into college. Since almost 60 per cent of those who pass out from the higher secondary stage do join college, there is some kind of a rationale about what the schools do.

For almost two centuries, school education has suffered from the operation of a mode of organization which prepared students for entry into college. Currently, the percentage of those who join college has risen to around 60 per cent. To that extent, the situation is more understandable than before. In any case, 40 per cent cannot join college for whatever reasons it might be. They have to enter the world of work therefore. But are they prepared for it? To put it another way, they have to learn on the job with the result that they cannot learn as well as if they had been trained for that purpose. No wonder both the standards of performance and output are exceedingly unsatisfactory.

In terms of the argument in hand, the question whether school education is terminal or not has a profound educational significance. This question is seldom raised except that some of the more perceptive teachers grumble about what they are doing. They are clear in their mind that there is something phoney in what they are doing. One of the questions therefore that the current exercise for the *National Curriculum Framework for School Education* prepared by the NCERT addressed itself for an answer to this question. Equally important, when the states get down to the job of adapting it in their state, they cannot overlook this dimension of the problem. Also, there are implications regarding the rural-urban divide, the unrelenting process of urbanization, the language policy followed in schools, the introduction of English at different levels and the kind of training that is imparted to intending teachers. It is this last issue which is now proposed to be taken up.

III

When it comes to the training of teachers, the situation is downright unsatisfactory. All those who join school-teaching have to undergo what is called teacher training. A close look at how teacher training institutions do that job is a study in confusion as well as obsolescence.

The National Council for Teacher Education (NCTE) was set-up half a decade ago to regulate academic standards in respect of teacher training and deal with related issues. Its impact so far has been marginal. It has been successful to the extent that B.Ed education which was imparted by certain universities through the distance mode has now been discontinued. A couple of universities started offering this degree in teacher training in a very questionable kind of way. Hardly any practice teaching was done. Several hundred thousand students opted for what was being offered, mainly because it enabled them to acquire the B.Ed degree without much effort. Whether it trained them to be the right kind of teachers or not did not appear to be of concern to any one.

As a result of the sustained campaign undertaken by the NCTE, this situation has now been regulated to a large extent. Requirements like student-teacher ratio at the University level, the kind and quality of lessons which should be made available to students and the practical training imparted have been put into a straight jacket. Therefore, the kind of things that used to happen a few years ago do not happen any longer. But this was, if one may say so, one part of the obligation laid upon the NCTE.

An equally important part of the obligation was that teacher training syllabi be restructured and brought in line with current developments. Here the problems which require to be attended are much more obdurate in character. They are also closely linked with the kind of teaching talent which has opted for teaching over the decades. In any case, these problems have yet to be attended to.

Since the formal system of education was set-up by the British and a system of teacher training was instituted as a concomitant part, not much attention has been paid to the weaknesses of the system. Several of them require urgent attention. One of them which was not all that unrelated to what was happening was the unfortunate fact that the profession of teaching was not as well paid as it could have been. Things have improved a little during the last few decades. Still one cannot say that the situation is all that satisfactory.

That the profession of teaching was not attractive enough was one important reason why teacher training did not attract much talent. The number of persons employed to impart teacher training is something like 50,000 today. Most of them were trained in a milieu when teaching was not one of the preferred professions. Therefore, it was mainly the rejects of the other professions who went into teacher training. In consequence, the intellectual capability of these people who were engaged in teacher training was not at par with, say, any comparable subject like physics or chemistry or economics or history. There are without question some outstanding individuals in the cadre of teacher trainers but the general run of those who are engaged in this task is much poorer than what would be regarded as acceptable.

No wonder even the kind of syllabus which in most cases is substantially obsolete and out of step with what is happening in most of the other disciplines is neither up-to-date nor comprehensive enough to deal with a wide enough range of issues. Some headway was made in the teaching of modern mathematics. As of today, there is also some interest in the introduction of Information Technology (IT) but it is confined by and large to the urban sector. The bulk of the teachers are so far totally untouched by what is happening in the rest of the world. Even the study of psychology revolves around what is associated with the name of Montessori and hardly anything beyond the advent of this powerful thinker.

More than a decade ago, I argued in a series of articles that the amount of talent in teacher training is so scarce that perhaps IGNOU should volunteer to undertake the role of preparing a model syllabus and get lessons written accordingly. There could even be a special syllabus for those who are already in position and whose abilities need to be refurbished. It would be easier for a university established with an all India charter of work to collect a number of capable people, formulate such a syllabus and get appropriate teaching material prepared than for a single university to undertake to do so. Perhaps such an experiment could have become the starting point of some kind of an upgraded syllabus, throughout the country.

The proposal was duly ignored as generally happens with most of such proposals. It is still not too late to revive that proposal and call upon the IGNOU to give a lead in the matter. The fact of the matter is that if this job is left to each single university—and there are something like a hundred of them which have teacher training departments—the infusion of talent would be so marginal that it would not make much of an impact. What is needed is the concentration of teaching talent at one point and then diffusion to other institutions from that central point.

Teacher training in India is still structured in terms of those concepts and techniques which became popular in the early twentieth century. Marginal advances have been made here and there but the bulk of teachers are trained in a system which was conceived and perfected during those days. It is time to make it contemporary and bring it up-to-date. Without the teachers being retrained in the new mode of teacher training, the situation would continue to be what it has been for a long time.

While, statistically speaking, literacy is above 60 per cent, in actual fact not even half the population is really literate. Consequently, if the remaining half is to be made literate and also equipped better than that, would it not make good sense that those who are expected to do so are enabled to become contemporary in their mental equipment and outlook? Not only that, without enhancing the quality of teaching personnel available for the academic system, it would not be possible to improve the level or the quality of our school education.

Some people would question the involvement of IGNOU in this business of retraining. IGNOU was thought of as this university has an all India jurisdiction. Secondly, the job of retraining, or even inservice training, cannot be handled by every university. Even to imagine that one central agency in India would be able to handle the job would be to misjudge the situation. It is only in respect of syllabus revision or preparation of teaching material that the job can be centralized. For the rest, the actual transaction would have to be decentralized.

Unless that is done, the job would not get done. Even if IGNOU were committed to this job, and it has not given any evidence of it so far, this university might find it too forbidding a job to handle. The crucial thing to underline is that while planning and writing ought to be centralized, the job of execution has to be decentalized. In any case, the sheer cost of retraining, assuming that the proposal would be found acceptable, would be so high that to set about it in a formal and organized way would be beyond the resources of the country. In consequence, there is no alternative except to undertake it through the distance education mode.

What is true of teacher training is even more true of what is called inservice training. With about five million teachers in the school system, the job is truly colossal. Hardly any attention is, however, being paid to this dimension of the job. In my view, both issues are equally important and require to be tackled on war footing.

The first thing to do in this respect is to accept the proposition that inservice training is indispensable, if one may choose to put it that way. With the kind of teacher training which has been imparted for the last century or so, this would amount to doing the job of training over again. What is more, most people would have to unlearn more than half of what they know. Only after that has been ensured that retraining, if that is the correct word to describe the process, would get under way.

The second thing to say is that the job cannot be done by going about it in a formal way. The effort involved would be so forbidding that neither physical resources nor suitable personnel would be available for the purpose. It was precisely for this reason that I had argued, more than a decade ago, that the job should be handled by IGNOU rather than any other agency. This university, in any case, has both resources and expertise of the right kind.

Without going into details, the magnitude of the job needs to be understood. Retraining five million teachers would involve extensive planning, particularly at each state level, ungrudging support by the State government, preparation of reading material in a number of languages, identification of a large number of talented teacher trainers who, apart from other capabilities, would know how to write, considerable administrative organization, a total revamp of SCERTs and a dozen other steps. Such a vast undertaking might also require a certain measure of UN support which, one can reasonably hope, would be forthcoming.

Apart from everything else, each State government would have to put some of its more capable and innovative personnel on the job. How to reach the teachers, how to persuade most of them to undergo retraining and how to involve the majority of them in this endeavour would require an extraordinary degree of planning and mobilization. As a matter of fact, the job would require the same kind and extent of mobilization as had been witnessed in certain districts of the country at the time of the *Total Literacy Campaigns*. This analogy is given so as to illustrate the nature, range and complexity of the operation.

To put it another way, no single existing agency is capable, as of today, to do the job. Even the IGNOU as constituted today would not be able to cope with the immensity of the task. If the intellectual part of the job is handled by IGNOU and the organizational part by each State government, the job would become manageable. Even if a few State governments, and some would be forthcoming, take the initiative, it would begin to have an impact on the 2500 or so institutions which handle teacher training today. Once they start getting involved, the prolonged intellectual stagnation which has characterized the whole range of teacher training all these decades would begin to undergo a certain degree of change.

Another additional instrument of change can be the publication of a high powered journal addressed to the teacher trainers as also to the General Body of teachers. It can be both in English and Hindi. But it should simultaneously become available in each important Indian language. Its dissemination should be organized in such a way that each individual subscriber is encouraged to pay for it. But the subscription should be subsidised in such a way that the individual teacher should be able to claim half of it from the State government. Nothing, if provided free, is ever valued. Therefore, individual teachers should be encouraged to subscribe to it and claim half the subscription as a subsidy. Getting the teachers to subscribe to an educational journal would be a very significant step forward.

Some would argue: why not fix the sale price at a lower figure and subside the venture that way? That would not serve the purpose. There is a difference between getting a journal at a subsidised rate and an individual teacher making a conscious decision to subscribe to it and then asking for a subsidy—only a few rupees—from the State. Not to see the difference between the two things is to miss the significance of what is being proposed. It goes without saying that the State agency would have to respond rightaway and there would be no questions asked. All that a teacher would have to do would be to provide his subscription numbers. Once that is done, the State agency would be expected to respond at once.

IV

The first Commission on Education was appointed in 1882. Even in the report of that Commission, it was underlined clearly that the kind of schooling imparted in India was deficient in respect of skills. Education everywhere has three key components: knowledge, skills, and insight. It is necessary to dilate on these three attributes with particular reference to school education in our country.

Right from the day that a baby is born, he begins to acquire knowledge. Every new piece of information adds to his knowledge. And as a child is growing up, he learns something new almost everyday. The link between those early years and the school is that, in a school, knowledge is imparted in a systematic way unlike what keeps on happening in the daily life of the child. In a formal school system the first thing that the child is instructed in are the three R's. This is an indispensable step because acquisition of this competence becomes a tool for the acquisition of the available written knowledge. By the time a child become literate and that happens after a couple of years, if not longer, he comes to have access to the vast amount of written knowledge. As he grows older and as his ability to have access to knowledge grows, he begins to acquire more and more knowledge. But let it be clearly understood that during the early years at school, written knowledge is secondary; what is primary is oral knowledge which is imparted to him by the teacher.

By the time the child goes to the upper primary stage, the child is 11-12 years. The child's body is now strong enough to do many more things than he could do when he was 8 or 9 years. Even at that early age, the child was able to do all kind of things. If the child was asked to go and fetch something, he would do it promptly. For one thing, the child recognized what he was asked to fetch. For another, the object that he was asked to bring could be handled by him and there was no problem in his fetching it therefore. No one should forget that in the course of play which is a substantial part of the child's daily routine, he uses his hands and feet quite competently. This helps his physical, as also his mental growth. By the time he is 11 or 12 and finishes the primary stage, he can handle many more complex things than he could have handled a few years earlier.

All this has been said in order to make the point that this is precisely the stage of development when a child should be encouraged to do those jobs which require a certain amount of manual skill and sometimes a bit of organization too. A peculiar complication in our country is that working with one's hands is looked down upon. In those cases where this happens, and it happens almost all over, there is one further unstated factor at work. All these decades, indeed two whole centuries since the formal system of education was introduced in India, the assumption has been that those who get educated are not expected to work with their hands. Therefore, even those who have come from a family background where working with one's hands is not a taboo, the unwillingness to use one's hands becomes an unseen barrier.

In any progressive system of education, this barrier should have been overcome two centuries ago. But the dominant social perceptions came in the way and neither the teachers nor the students took to working with their hands. The syllabus too was so organized that there was no opportunity to work with one's hands. All instruction was either oral or written and no one was either expected or required to work with his hands. This continued to be the dominant philosophy of school education till the appearance of Gandhi in the early 20's of the last century.

He identified the *Charkha* as the symbol of the indigenous system of education. He went beyond that and said that any form of education which did not encourage children to work with their hands was anti national as also inimical to the right kind of education. This is not the occasion to dilate on the Wardha Scheme of Education which was introduced when the Congress governments took power in half a dozen states in 1937. There was a certain social stir and a certain amount of educational re-thinking in the wake of its introduction. But the experiment lost steam after two years when the Congress governments resigned and things went back to what they were. It was after 1947 that an attempt was made to revive the system. But the attempt did not succeed.

Whatever happened was a continuation of what used to happen before 1947. In plain words, there was a good deal of talk of working with one's hands and the wider concept of vocationalization but very little actually got done. It should not be necessary in this case to dilate upon those details . The fact of the matter is that the school syllabus almost all over the country by and large remains what it was in the middle of the nineteenth century when the formal system of schooling was introduced in India.

To recall, it was this very system of schooling which was criticized by one of the ablest English administrators, Sir William Hunter, in no uncertain terms in 1882. It was clear to him that in addition to knowledge which the school system imparted, it was also essential to impart a minimum quantum of skills. He had not gone into details like the traditional aversion to physical labour, the superiority which the Brahmins had over others because they did only intellectual work and not manual work and sense of distinctiveness which those with money could engage others to work for them. All these sociological arguments were advanced much later. What mattered, in his eyes, was the ability of the child to apply the knowledge that was being imparted to him in dealing with the numerous day-to-day problems that arose. Did he acquire this ability to apply the knowledge which he had imbibed or not?

Gandhi's mode of saying all this was very different. He was totally opposed to the sense of superiority which certain social classes took pride in and this expressed itself in discrimination against the lower classes. Till the British left, practices like the lower castes not being allowed to enter certain temples or not being allowed to draw water from the same well as the upper classes did or even that ghastly thing that a member of the upper class had to wash himself if even the shadow of someone belonging to the lower category fell upon him were widespread. The Indian Constitution when it was formalized in 1949 banned most of these practices. Subsequently, it was laid down that if somebody was addressed as an untouchable, that would be regarded as an offence. Most of these steps however remained only on paper and did not always get acted upon.

To be fair, things today are distinctly different from what they were even 7-8 decades ago. But nobody can say with any sense of pride that caste discrimination has disappeared from our country. All kinds of other means (reservations, for instance) have been adopted in order to attempt to bring about social change. These have proved effective to some extent but not to the extent it was expected to do.

One thing that we did not do and could have done was to use the weapon of education to weaken or do away with caste discrimination. In educational terms, the thing to do was not only to talk about vocationalization but make it an integral part of schooling so that every one who went through the system came to acquire a different outlook. Had that been done, by now something like half the population of the country would have been put through a different kind of experience. Apart from this ideological reorientation, a much more substantial number of people would have been actually working with their hands and not looking down upon manual labour. This would have brought about a refreshing change in the outlook of people.

No one should overlook this fact that even though India is almost half literate and the other half is yet to become literate, the number of persons (both grown ups and children) involved in the educational system is approximately 200 million even today. This number is likely to double in another couple of few decades. Had the crucial educational change have been carried through in good time and in good measure, by now it would have led to a far reaching social change as well. It would be in order to say therefore that the biggest gap in school education is that while some knowledge is imparted, the learning of skills is not regarded as important. What is called insight comes much later. It either comes with age or when a small percentage of people go on to higher education. But the two basic prerequisites—knowledge and skills—have to be imparted to growing children without exception. Not to give equal importance to both is to distort the meaning of education.

The point to underline is that by having neglected the acquisition of skills we have not only been imparting a grossly deficient and distorted form of education, we have also missed the opportunity of engineering that vital social change which the country needed so badly.

What is being done today is mere tokenism. In a few thousand schools, vocationalization has been introduced and that also mainly at the secondary and the higher secondary level. The upper primary level is more or less completely ignored. The fact of the matter is that without a powerful intervention in favour of vocationalization at that level, it would not be able to take off. If it is introduced at the upper primary level in the manner it ought to be introduced, by the time the students come to the secondary stage, some kind of educational streaming would have taken place almost automatically. Those who are skilled with their hands and are interested in things which can be done manually would more or less on their own opt for the vocational stream. Others who are academically ambitious would opt for the academic stream.

There can be a middle stream too however. In order to be successful in promoting vocationalization, the right thing to do would be to so arrange things that there is no rigidity about those who want to change their mind later on or wish to take up a new option or discover somewhat late in life that their real strength lies in working with their hands and not what they had been led—or misled—into doing. In simple words, movement from one stream to another should never be made restrictive.

Two other points that may be made in this connection are the following:

(a) Unemployment which is a serious problem would be viewed differently and indeed need not be regarded as a problem provided a larger percentage of students who are skilled with their hands are encouraged to do what they are good at and provided the right kind of ambience as well as proper training. It goes without saying that craft training which is imparted today in the ITIs and various other similar institutions is not exactly what it should be. Were the social preferences to undergo a change and the school system to be reorganized as suggested, these middle level craft institutions would undergo a marked degree of reorientation. There would be much greater flexibility in their operation as well as better productivity, on the part of students.

(b) There is a tendency to look upon vocationalization in a severely limited sense. Crafts which are popular in the cities are generally encouraged whereas it is equally important to provide those crafts which have a bearing on agriculture and in the bargain, ensure better agricultural growth. This aspect has been so consistently neglected that while in towns and cities there is some emphasis on vocationalization, what happens in the countryside is not in the same key. This is totally wrong; we forget that 70 per cent of the people are still engaged in agriculture. To include that sector, indeed to give special attention to it, should be a matter of top priority.

A mistake was made in not having included skill formation in respect of agriculture for more than two centuries. If there is one thing lacking in India, both in the countryside and the urban areas, it is the middle level skills, and the only explanation for that is what happens or more precisely, fails to happen in the school classrooms.

If any further evidence of what is being done, or not done, is to be given, one has to only mention the fact that there is only one institute for vocationalization to cater to the needs of the whole country. Without being negative in any sense, one can legitimately say that this is an example of tokenism, and no more.

Secondly, as far as one knows, only two states, Tamil Nadu and Punjab, have so far appointed committees to go into the issue of vocationalization during the last few years. As between the two states, Tamil Nadu is doing distinctly better. Punjab merely contented herself with the appointment of a committee and then went to sleep after that.

V

It would be pre-sumptuous to assume that when one cannot think of a few more gaps, there are none that exist. But then, they would be gaps in the functioning of the system rather than the system. In terms of systemic organization, the three gaps identified here are the basic ones and have been discussed in some detail. Each one of them is important in its own way and they are, to quite an extent, interlinked. In a volume which has contributions from several people, a large number of issues are bound to be discussed, it was not all that necessary to go into further details.

Open Schooling

ONKAR SINGH DEWAL*

Context

Education is a lifelong march to develop higher cognitive abilities of analysis, synthesis and judgment and a constant search to gain *Viveka* and *Vinaya*. It is a comprehensive endeavour to develop strengths of mind, body and soul. It develops a sense of purpose in life and propels the individual to search one's own meaning in the cosmic set-up. Education at the reflective level develops a sense of awe and wonder. At the same time, it helps achieve *dharma, artha, kama* and *moksha*. Thus, education helps an individual for self-betterment, self-empowerment, social progress, national prosperity and universal brotherhood.

If we look back and have *Simhavalokan* (What can be translated vaguely as reflective evaluation) we see us moving in the right direction although the speed has been decidedly slow. In the last five decades India has achieved several milestones on the educational journey. Yet several significant milestones still lie ahead and the nation has to march firmly forward, with measured steps, towards the goals of *Sarva Shiksha*, Education for All. One such strategy would be strengthening and promoting Open Schooling.

In 1947 India inherited colonial system of education, which was bookish, memory-oriented, and elitist. Contents in history, languages and geography were largely irrelevant. Science was taught on the blackboard by chalk. There were only 4000 high schools and 16 universities. In the first two decades (1947-67), significant educational reforms were undertaken. Steps in the direction of renovating curriculum, producing quality instructional materials, training teachers and evolving comprehensive, continuous and objective evaluation were undertaken. With respect to structure, the high school system of ten years, existing in 1947, was changed to higher secondary in mid-fifties and then to 10+2 system in 1975-76. Curriculum at primary and secondary level was also changed. The thrust of change was to integrate, deepen and make curriculum environment-oriented and comparable to the curriculum of developed countries. Quality textbooks were also produced. In this educational journey Open Schooling though in moiled form enters the educational scene soon after 1947 as enrichment radio lessons in 1950s. The seeds of open schooling sprouted in the first two decades (1947-67) later on were strengthened in 1967-87 and again reinforced and refined in 1987-2000. Details about these appear to the last part of this Chapter under the heading "March of Events'.

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The term Open Schooling overlaps with terms like open education, open learning, open systems. Although each term has its specific connotation, there is a considerable overlap. The term schooling may convey two meanings. In restricted sense it relates to teaching at the school level, and in the broader sense it is synonymous to general education. We are using the word schooling in this paper, in the restricted sense. The term open also has two connotations, one refers providing liberal education in an open and natural setting, devoid of threat and restriction. In this sense it comes closer to Tagore's meaning of conducting educational activities in natural, aesthetic, open and free environment. In another sense open education is open with respect to contents of learning, mode of learning, place of learning and time of learning. It is open with respect to admission procedures, eligibility criteria, and scheme of examinations. Open Schooling, in this paper, is used in this sense.

Open education as a movement got started by the establishment of Open University in the UK (OU-UK) in 1969. The idea of OU-UK emerged out of the idea of university of the Air which was propelled by the forces of egalitarianism, adult education and telecommunication technologies (Perry, 1976). Soon the fresh breeze of Open Education was to touch the Indian Shore.

If a given system satisfies all the needs of a society, educational, social, economical and technical, it remains operative and unaltered. Only after stipulated periods, it may call for marginal adjustments and fine tuning. But when societal, economical and technological systems change, educational systems demand drastic changes or even replacement. This happened to the Indian education in 1060s. Non-formal system and correspondence education which can be considered the precursors of Open

Schooling got established, as alternative learning systems. Even before these, media-based teaching paved the way for open schooling. It would be instructive here to recall that educational programmes through All India Radio (*Aakashwani*) were indeed the foundation stone for Open Schooling (Singh, 1992) which was to come in 1979.

The Delhi School TV Project

Open Schooling in India emerged on the education scene by different routes; educational technology, non-formal education and correspondence education.

The first flash of Open Learning came on the Indian scene when the Delhi School TV Project was launched. Many of the middle schools in Delhi in 1960 did not have science laboratories, with the result that science experiments were taught only by the chalk and talk method. When commercial TV came to Delhi, it was thought that some science experiments can be viewed by students in schools by seeing them on the TV screen. This was the beginning of the Open Schooling with limited objective and for a limited target group.

Non-formal Education

Non-formal Education (NFE) was a structural *innovation*. Innovations occur at the *macro* and *micro* levels. Ten-plus-two-plus-three scheme of education, mid-day-meal scheme, district level school for the rural gifted students of Andhra Pradesh, are some of the macro level innovations. On the other hand innovations like use of team teaching, micro teaching, mastery learning, programmed instruction, use of diagnostic tests are micro level innovations. These are bottom-up innovations and need vigorous efforts both for their survival and dissemination. Macro level innovations are top-down innovations which have substantial governmental support. They do not die premature death. Their survival after pilot project stage, however, depends upon how well they were managed. Non-formal Education was a macro level innovation.

As the existing formal systems had many restrictions, rigidities and limitations and catered to specific needs of specific learning groups, there emerged a trend to set up alternate learning system in 1970s. Non-formal Education as an alternate system of education has been defined as "any organized educational activity outside the established formal system — whether operating separately or as important feature of some broader activity — that is intended to serve identifiable learning clienteles and learning objectives" (Coombs, 1973).

Formal systems are rigid and hierarchically structured. They stifle innovations and restrict experimentations. Non-formal systems have an advantage. They have inherent flexibility. They are self-oriented learning systems resulting as a consequence of one's interaction with flexible environment. Thus, in that context NFE can be seen as a variant of Open Schooling.

A plea to design alternate systems of education in India is seen first in the Education Commission Report (1964-66) as a mild under-current in their observation: "opportunities for part time education through programmes like evening colleges, and for own-time education through programmes like correspondence courses should be extended as widely as possible".

The specific stress on non-formal approach at the school level came from the Central Advisory Board of Education (1974). They observed that "the goal of universal education cannot be realized through an exclusive reliance on the formal system of education with its single point entry, sequential character, and full time professional teachers". The need for non-formal approach was again witnessed in the interim report of the Working Group on Universalization of Elementary Education (1978) when it observed that "the motto either full time education or no education at all — does not suit the hard realities of life". The new motto was "every child should continue to learn in the age group 6-14 on a full time basis if possible, and on a part time basis if necessary".

Correspondence Education

After Independence, for nearly a decade and half, the educational system in the country followed "more of the same" policy — opened more institutions, appointed more teachers, enrolled more students. Under conditions obtained at that time during the First and the Second Five Year Plans, there was nothing wrong in that approach. But in the sixties, it was realized that the educational system is not working at its optimal efficiency. The Education Commission (1964-66) recommended own time, and part time education.

Ideas are contagious and travel fast. The success of correspondence education in Canada, US, Soviet Union, Europe and Australia prompted India to set up a Committee under Dr D.S. Kothari to explore feasibility of introducing correspondence education in Indian universities in 1960. The Committee visited distance teaching institutions in Soviet Union and recommended that as a pilot project Department of Correspondence Studies be set up in Delhi University as a part time and own time system of education. It started in Delhi University in 1962.

The arguments in support of correspondence education were two, it would be cost effective and it would reduce the pressure of student on universities and colleges. Practically the same argument and logic was offered when other universities set up their respective institutes of correspondence studies. The logic of reducing pressure and cost effectiveness which were advanced in sixties do not appear convincing and sound now. We find that logic myopic. It totally excluded the convenience of the student.

Correspondence education at the school level started in mid-sixties in India. The logic was slightly different at the school level. When the Conference of Boards of Secondary Education (COBSE) met at Bhopal in 1965, they opined that Boards should gradually offer correspondence teaching to help private candidates to improve their academic output. Here also the rationale offered didn't touch the aspect of student convenience (Dewal, 1992)

When the correspondence institutions were set up in various Indian Universities, their objectives and practices were very different from objectives and practices that informed and promoted establishment and growth of open school or open universities. The objectives of correspondence education was to reduce flow of students to campus-based institutions and to reduce capital and recurrent costs. The objectives that prompted open learning system were widening of students' access to tertiary education and to build up more and more of structural flexibilities in the educational system. Thus, if we choose words carefully correspondence education was launched as a complementary system and the open institutions were set up as an alternative system.

The scheme of correspondence education was included in the Third Five Year Plan. An Expert Committee under the chairmanship of Dr D.S. Kothari was appointed in 1961 to work out the details. The Committee recommended that the time had come to start correspondence course in some selected universities. The Committee were of the view that such a step would reduce the pressure of student numbers on universities as well as reduce capital costs and may cut down even the recurring costs.

The strength of correspondence education was that it provided the learner the facility to study at his own place and pace. But it also had delimiting and restrictive feature. It adopted the same scheme of studies, syllabus, examination system as was followed in regular institutions. The only difference being correspondence students studied through non-contiguous mode whereas the regular students studied through face-to-face mode. Apart from freedom of place, it did not have freedom in terms of curriculum and evaluation.

Open School

The concept of Open School was a big and bold departure and an advance over the concept of correspondence education. The aim was to liberate the system of its die-hard orthodoxies and infuse flexibilities in it.

Besides this consideration, there were two more considerations that prompted the emergence of the Open School. Many students due to constraints of finances, family circumstances or rigidities of the school system left schools much before they reached Class VIII. Open School was an alternative to give them second chance and take them back into the system. Besides drop-outs these were many working adults especially in Border Security Force (BSF), Police, Railways, Army, etc. who keenly desired to pass their matriculation. The Open School system provided them the second chance.

Idea to start Open School came up in 1974. The then Director of National Council of Educational Research and Training, Prof. Rais Ahmed set up a Working Group and the group reported that it would be desirable to start Open School for the age group 14+ and adults. The idea which started in 1974 matured in 1979 when Dr R.P. Singal, the then Chairman of the CBSE prepared a blue-print and sought the deputation of the author as the Founding Director. In a short period of three years the Open School became a success story (Dewal, 1986).

The objectives of the Open School were:

- To offer a parallel non-formal system as an alternative to formal schooling.
- To provide the opportunity of education to out-of-school learners, school drop-outs, working adults, housewives and learners from disadvantaged sections of society living in remote areas of the country.
- To offer bridge/preparatory courses for enabling learners to take up secondary level courses.
- To offer Secondary, Senior Secondary, Technical, Vocational and Life Enrichment Courses through distance teaching methods.

Keeping in view the objectives, the Open School proposed four types of courses:

- Courses leading to Secondary School Examination,
- Courses leading to Senior Secondary School Examination,
- Bridge or foundation or preparatory courses, and
- Technical, Vocational and Life Enrichment Courses.

In the first phase bridge courses and courses leading to Secondary School Examination were started. Courses for Senior Secondary School and Technical, Vocational and Life Enrichment were to start in the second phase. These got started when the Open School was upgraded as National Open School in 1989. The Open School ought to be considered as one of the major structural innovation. It had many special features (Dewal, 1990).

Wide Canvas

The Open School did not limit its facilities to any region or country. It was open to all. Learners from all parts of the country joined Open School.

Open Entry System

The Open School offered an open entry system. There was neither restriction on the upper age limit, nor specific entry qualifications for admission. It was the first institution to introduce the Open Entry System at the school level. Any one above the age of 14 could join it, provided he/she could read and write and benefit from the Open School Courses.

Multi-level Courses

The Open School provided multi-level courses, keeping in view the level of learner. Core course was for learners who had cognitive competencies equivalent to Class VIII. The bridge courses were for those who didn't have any formal qualifications or had not passed Class VIII, but had attained a standard equivalent to Class VI or so.

Flexible Scheme of Studies

The Open School had designed a separate scheme of studies, keeping in view the special needs of the target learners. Under this scheme learners had the option of studying subjects of their choice provided one of the subjects was English or Hindi.

Flexible Scheme of Examination

The Open Scheme had designed a flexible scheme of examination. The examinations were to be held twice a year in March-April and September-October. A learner was to take the examination in one or more subjects (up to five). The pass in five subjects was to be obtained simultaneously or in parts. In the latter case the credits (Pass) obtained got accumulated.

Learning Materials

The Open School produced learning materials of two types, one for the core course and another for the bridge course. The Open School followed the subject team approach, drawing inspiration from the *Course Team Approach* of the Open University, UK. The core lessons in most of the subjects followed a uniform format. They started with introduction, followed by objectives, teaching points, in text questions, review, terminal tests and finally correct answers. The Open School also designed some lessons on information mapping format.

The bridge lessons were prepared in self-instructional style for students who did not have middle level competencies in English, Hindi, Mathematics, and Science.

Formative Student Evaluation

Besides preparing reading materials, the Open School built up a system of continuous and comprehensive formative evaluation with minimal turn-round time.

Regional Resource Centres

The Open School also set up regional resource centres which provided academic guidance to students of that region. The first Centre was set up in Sikkim in 1980-81. At present the NOS has 1500 study and 10 regional centres.

National Open School (NOS)

Open School started as an innovation in 1979. It got accepted by 1983. Looking to its success and relevance, the Open School which was launched as a pilot project of CBSE, was upgraded to National Open School in 1989. At present NOS enrols 2,00,000 students and performs the role of a coordinating agency for open learning at school level. There are ten State open schools that seek professional and financial support from NOS.

NOS was set up by the Government of India as an autonomous institution. In a comprehensive paper Prof. Mukhopadhyay (1994) explains the system perspective of NOS. To ensure educational justice, it provides flexibility, opportunities to girls, rural youths, working person, SC/ST candidates and students of the disadvantaged group.

NOS provides the following programmes:

- *Foundation Courses* —These courses are meant for those learners who do not have competencies equal to Class VIII. Foundation Courses help students, develop their knowledge base equal to Class VIII should take foundation courses are not required to take any public examination.
- *Secondary Courses*—These courses are for those who want to complete Class X education leading to Secondary School Certificate. The certificate can be obtained in one or five years. Each year students get facilities to appear in +2 examinations.
- *Senior Secondary Examinations*— These courses lead to Senior Secondary School Certificate which has

equivalence with other Boards and students are accepted as under-graduate students in Universities.

- *Open Vocational Education*—NOS offers educational programmes independently or in combination with Academic Subject in Secondary and Senior Secondary Courses.
- NOS offers life enrichment programmes and Open Basic Education Programmes.

Open Vocational Education Programme (OVEP)

It is interesting to know that NOS offers OVEP for different target groups although the programmes offered are limited in scope and number, they have been well-conceived and well-planned. NOS offers OVEP of varying durations and for various target groups. Some programmes are for neo-literates of 15 years age and other programmes like typewriting, stenography, secretarial services are for students who have passed Class X. Still other programmes like Beauty Culture, Plumbing, Library Assistance are for Class VIII pass students. NOS proposes to offer a lot more courses for students going to agriculture, technology, home science, health and paramedical, business, commerce and computer education. It also proposes to offer courses through Vocational Education Centres to market places, and work places.

Two bold Innovative Projects: During 1992-95 NOS designed two innovative projects Walk-in Examination and Open Basic Education using Open Distance learning mode for neo-literates. The Open Basic Educational now is being launched with the help of some committed NGOs all over the country. Curriculum at three levels A,B and C has been designed and a decentralized approach has been adopted to develop study materials. Certification is to be done jointly by NOS and the Accreditated NGO.

Another innovative project of NOS which was shaped in 2000 was that of Walk-in Examinations. NOS at present enrols 2,00,000 students and conducts secondary and senior secondary examinations, twice a year. This provision does not fully match with the true spirit of open learning where a learner can take examinations as and when he/she likes. Although, NOS may not use this flexibility for secondary and senior secondary examinations, it has plans to use Walk-in Examination for open basic education courses.

National Consortium of Open Schools:

In the Delhi Summit of nine highly populated countries (known as E-9 countries Egypt, India, Bangladesh, Brazil, China, Indonesia, Nigeria, Mexico and Pakistan) held in December 1993, the Delhi Declaration emphasized the use of open distance education to reach out to marginalized groups to improve quality of education and achieve the goal of Education for All. Delhi Declaration fits well with policy directive of Government of India. The Central Advisory Board of Education (CABE) has emphasized the need to set up state level Open Learning institutions. In the light of this policy direction National Open School constituted National Consortium for Open Schooling (NCOS) on 3 September 1997 with the approval of State Open Schools with the following objective:

- To act as a contact bureau for information dissemination;
- To take steps for the extension, coordination and quality of open schooling;
- To promote cooperation among partners;
- To share views and infrastructures;
- To facilitate equivalence; and
- To evolve mechanism of transforming State Open Schools.

Open Distance Education

Distance Education as compared to face-to-face or conventional teaching is comparatively a new comer. It had its origin in postal teaching and ultimately evolved to open learning slowly and unevenly. Whether it was due to tyranny of distance, as in Canada and Australia, or an individual's willingness to refrain from campus teaching, as in Europe and Scandinavian countries, distance education has been a second choice till sixties.

Although South Africa and Soviet Union had excellent institutions specializing in correspondence education, they did not become world's models. Off campus teaching (as is called in Australian Universities) or independent study (as is called in American Universities) or distance education (commonly known all over developing countries) was largely a print-oriented venture.

In thirties radio broadcast became adjunct to printed lessons in Canada and Australia, and in fifties TV programmes were made supportive to Correspondence education in the United States.

The United Kingdom, one of the conservative countries in matter of education after a great debate, set up the Open University in late sixties which became a model for the world. Since the inception of Open University, UK in 1968 there has been a chain of universities coming up all over the world on the Open University, UK model: Pakistan (Alma Iqbal Open University, 1974), Thailand (Sukhothai Thammathirat Open University, 1980), Korea (Air and Correspondence University, Korea, 1972), Papua New Guinea (Department of External Studies, 1976), Iran (Free University of Iran, 1973), Israel (Everyman's University) set up institutions on OU-UK model providing flexibility and openness to student learning. The impact of OU-UK on Indian education can be seen at two levels, at the School Level in 1979 and at the University Level in 1982.

During early eighties India and its neighbouring countries set up institutions exclusively for distance study (Reddy, 1988). The Open University, Sri Lanka (1980), Bangladesh Institute of Distance Education (1982), Andhra Pradesh Open University (1982) and Indira Gandhi National Open University (1985) came up during this period. Instructional design in Open Universities in developed countries gradually included more and more of communication media beside prepared printed materials. The use of tele-conferencing, computers, video discs became important components of distance study in the developed countries. This trend has now evolved into virtual teaching using website and satellite networks.

Semantic Noise: Many times the terms "Distance" and "Open" education are wrongly used inter-changeably. The two terms are different. The former means a system of instruction operating without mediations of a live teacher. The chief instrument of teaching are prepared self-contained self-instructional study materials with or without multi-media inputs. it is non-contiguous, guided didactic system (Borje Holmberg, 1981). It also has the elements of industrialized education system (Otto Peters, 1983). Another special feature of distance eudcation is the student support services and two-way communication between the learner and the instituion, which is done through contact sessions, comments on formative evaluation sheets, and prompt response to student queries.

Open education, on the other hand, means reducing rigidities and consciously injecting elements of openness and flexibilities into the eudcational system. Flexibilities can be in terms of student admission, eligibility, examination, transfer and accumulation of credits, content of learning and choices in course combinations. Open institution may or may not teach through distance. Distance institution may or may not be open. However, in the Indian context as all open institutions teach through distance mode the term "open" and "distance education" are used as synonyms. But it is better to grasp the differences.

Quality Assurance in ODE

Equivalence of open schooling with formal schooling is an important aspect. Conference of Boards of Secondary Education (COMSE) and Association of Indian Universities (AIU) have taken steps to ensure that a certificate issued by the NOS gets due recognition by other educational institutions. As equivalence depends upon quality assurance, measures taken at various levels, they need to be built consciously in the system so that quality and standards are maintained.

Open Schooling system needs to be alert on various aspects that constitute the sub-systems of ODE system—they are curriculum and curricular contents, design and development of learning packages, zero error delivery system, organization of personal contact sessions, provision of student support services and evaluation and certification.

The over-all quality assurance of ODE will be obtained by ensuring that the system offers academic (core and bridge), vocational and life enrichment courses; that course content is flexible, relevant and has equivalence; that system is accessible, retains the learners and ensures an acceptable level of achievement.

Strengths and Weakness

The National Policy on Education (1986) in India has rightly acknowledged the potential of distance education. The observation that "the future thrusts will be in the direction to open and distance education" (p.5) clearly shows that distance education will be a welcome choice both in formal as well as non-formal education, in initial as well as in recurrent teacher education. With a visible high profile, distance education is likely to play a vital role in years to come. However, it is most likely that with change in context rationale for using distance education will also change. With the changed logic and rational, it is most likely to effect structural changes within the open distance system itself.

If we look at the philosophy of Open Schools and Open Universities, which probably would be the trend of future expansion, we would realize that the logic and rationale is entirely on a different footing. Distance Teaching Institutions set up after 1980 in India keep student convenience and student autonomy as their main focus. Thus, relevant and need-based courses, accumulation of credits' open door admission policy and availability of bridge and foundation courses are conspicuous feature of flexible and open structures designed to give more control to students and cater more to the convenience of students.

At present there are nearly ten Open Universities and 60 universities offering distance education courses. When one views growth of distance education in India one finds a departure in shift. The correspondence institutions offered the same course and gave the same examination. They were often at the peripheral rim ineffective adjunct of the university. The parity of esteem was also lacking. The faculty teaching regular students was considered more competent than the faculty of correspondence institutions. They became milching cows as well as dumping ground for disgruntled and unmanageable personnel. Distance Open Universities, now, stand on the equal footing to conventional universities. There is a parity of esteem, and parity of standards. Yet distance learning institutions have their own weaknesses. Some are listed below.

Distance Education in India at the moment suffers from some major ills. Its development has been lopsided. The range of subjects is limited. There is lack of integrated multi-media study materials and lack of collaboration and cooperation amongst institutions. Horizontal and vertical linkages are poor and there is an appalling neglect of student services. It should be the endeavour of the future to correct these distortions.

Uneven Growth: Eastern and Western States in India do not have distance teaching institutions in appropriate number. Further, the distance teaching institutions of the University of Madras, Madurai and Annamalai are so huge that the number of students in these three institutions equal the number of students in the rest of the country. Looking at the special location of states like Sikkim, Assam, Nagaland, Meghalaya, Mizoram, it is essential that such alternatives must be set up in Eastern States in a big way.

Limited Offerings: Distance teaching institutions in the country at the moment offer a very limited range of subjects. By and large the subjects are the same which are offered in formal institutions Indira Gandhi National Open University happily is an exception.

Very few institutions offer courses in Science. Probably this difference is due to difficulties in organizing practical work. In the recent past some institutions like Annamalai University has started courses in Science. The future would demand more need-based and relevant courses, life-oriented and income generation in nature, to be offered by distance teaching institutions.

Lack of Integrated Multi-media Study Materials: Study materials dispatched to students by many of the distance teaching institutions are primarily print-based. Some Universities like Madurai, Annamalai do prepare some audio cassettes as adjunct to print lessons, but, unfortunately they remain superficial. Whereas institutions in the world are using micro computers, tele-conferencing, video discs, India cannot afford to neglect these advance technologies. If she does, she does it at the peril of her learners.

Developing integrated multi-media study materials is a difficult and tough job. It requires sophisticated planning and very tight schedule of developmental activities. But it is an approach that provides synergetic hereby educational inputs and enriches learning to make it an enjoyable experience.

Poor Design: If one looks at the instructional materials designed by some of the distance teaching institutions, one will be shocked to see how poor they are qualitatively as well as aesthetically. Most of the materials are pale and pallid and dull copy of the textbooks, replete with mistakes, with hardly any illustration or graphics. One rarely finds humour, caricature, flashes of wit and creativity.

The course team approach using principles of learning and communication can improve study materials. Various techniques like concept mapping, progressive differentiation of concepts, use of advance and post organizers, use of intext questions, use of graphics need to be incorporated in the design of study materials. It is time that expert knowledge of instructional designers should be used fully in developing study materials.

Lack of Collaboration and Cooperation: Although open distance teaching institution in India have formed an Association, yet genuine collaboration and cooperation hardly exist amongst distance teaching institution. If there is any, it is very superficial. The future would demand that institutions should have joint production of study materials, share courses and accommodate student credits in their evaluation.

Lack of Linkages: One of the reasons for distance education being the second choice is that links are missing within the system and without. Lack of internal linkages — vertical and horizontal and linkages with the formal system — are the main obstacles in the growth of distance education. It is encouraging to note that *National Policy on Education* 1986 has envisaged building of linkages amongst distance teaching institutions and the formal system. The idea now needs to be operationalized.

Neglect of Student Services: Very few distance teaching institutions in the country offer good and solid student support services. There is no counselling or guidance services provided at the study Centers. Contact programmes are occasional and attract very few students. Telephonic contact with students is practically nil. Personal communication from students are either not replied or replied casually. If distance education is to become a potential alternative, it has to gear up its student services.

March of Events

Major milestones in Open Schooling can be summed up on the following time line:

1960	Delhi School TV Project.
1962	Correspondence course at the University level started in Delhi University. Later on it evolved into distance education and still later on into open education.
1964-66	Education Commission emphasized own time and part-time education.
1965	Correspondence course at the School level was launched by the Board of Secondary Education,

	Madhya Pradesh, Bhopal. Later on Rajasthan, Orissa, Delhi and Uttar Pradesh adopted the scheme.
1968	National Resolution on Education stressed the need of quality education for 10+2 system where 10 years of schooling was to have undifferentiated curriculum.
1973	Setting of Centre for Educational Technology (NCERT) and creation of State E.T. Cells.
1975	Satellite Instructional TV Experiment (SITE)was launched with the help of ATS-6 Satellite.
1978	Non-formal education system emerged as an alternative.
1979	The first Open School was launched by CBSE as a pilot project. It became an international success by 1983.
1982	The first State Open University was launched in Andhra Pradesh.
1983	Central Institute of Educational Technology (CIET) was established as an institution of NCERT. Six SIETs were set up under respective SCERTs.
1985	The first National Open University was set up called IGNOU.
1986	NPE emphasized Open Distance Education.
1989	The Open School of CBSE was upgraded to National Open School as an autonomous institution under MHRD.
1993	Delhi Summit recommended the use of distance education is providing basic education.
1994-97	Video conferencing started by IGNOU and NCERT got established as a dependable mode of educational interactivity.
1997	National Consortium of Open Schools was set up.

Future Perspective

NPE (1986 and 1992) has given full recognition to open education. Open Schooling can play an important role in adult education, parent education and school education. Correspondence education which was launched in the country as a complementary system — (the courses were the same, the syllabus was the same, rules relating to examination system or scheme of studies were the same) served the purpose for time being. As a complementary organ, the correspondence system promoted and supported the formal system. With advent of open distance learning the Open Schooling entered the educational scene as an alternative. It was launched to cater to the needs of a different learner clientele to offer different and innovative need-based courses. It provided a whole lot of flexibilities in terms of student enrolment, eligibility, course combination and examination. It would be a pity if the open learning system, conceived as an alternate strategy remains pale, ineffective, duplicate copy of the formal campus education. In that event, it would lose the warmth and dynamism of campus education and boost the infirmities of teaching at a distance.

Institutes offering open schooling have to ensure that they increase their internal efficiency and build their action research capabilities. Other areas of thrust could be: increasing enrolment of marginalized groups specially SC/ST learners, girls and learners from disadvantaged geographical locations. Increasing pass rates, increasing retention, reducing drop-out rates and ensuring minimum level of learning. Further, Open Schooling will lose its glamour, and charm if it does not offer vocational courses. Open Distance institution will have to re-engineer, instructional design, improve learning support services, use information and communication technology, and make curriculum flexible with multi-exit and multi-entry points.

Open Schooling institutions should be very clear about rule of communication technologies. Every institution should earnestly use communication technologies in delivery of content to their students. Looking to the uneven development of communication technologies in India, audio and TV programmes should supplement printed material and may not be an essential ingredient of the learning package. An Open Learning Institution should develop and prepare bridge and threshold courses and make them available to learners to help them join the main-stream.

If lifelong education is the master concept, if self-learning has the irreplaceable values, distance education will be called on to play a vital role. If education is the important and crucial input for social, economic and cultural development, if education contributes massively in human resource development and if education can arrest "obdurate under-development" distance education again has a very important role to play. None would disagree with the pithy expression of the NPE (1986) that "the future thrusts will be in the direction of open and distance teaching".

In the end, let us clearly understand that philosophy of Open Schooling which promotes learner autonomy demands learner-friendly evaluation system. The present combination of Open Schooling with conventional evaluation does not go well.

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Alternative Schooling

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Introduction

Schooling is an 'institutional manifestation' of the process of education in any particular society. At the same time education is a social 'institution'. Every society essentially has education as an institution. It can be best understood by seeing parallel social institutions like marriage, family, etc. They are manifested by living together, procreating and raising children and maintaining kinship relationships. Similarly, education is a process of preparing the young ones to become 'socially useful productive *citizens*' of that particular society to which it refers. Many societies have created some kind of infrastructure to fulfil this task like (the most commonly seen) the school. Some others had this function fulfilled by organisations like *Dhumkuria* (the Oraon tribe) *Ghotul* (the Gonds), *Nokpanti* (the Garos), etc.

In course of time these institutions were characterised by educative processes that they standardised. The methods and tools of the educative processes became more or less universal as well as rigid. The term 'school plant' came in vogue, lifted from the industrial paradigm wherein you give an input, like a raw material in an industry, subject to a process (in this case educational process of curricular treatment, books, institutions and all) and get a final finished product of an educated person. 'Schooling', therefore, became almost synonymous with educational process and acquired a status of *as the only means of educational process, to merit a label of an 'educated person'*.

With the passage of time the development of disciplines like psychology, sociology, history and related social sciences led to body politic of the theories of learning and the process of transference of knowledge, understanding, etc. became so very standardised that the flexibility, adaptability and local relevance slowly and gradually started giving way to uniformity and rigidity. The institutions, namely, the schools became more and more formalised, hence formal education and formal schooling, seeking to have some form of standardisation, comparability across cultures, etc. very often justified by the movement of the learners across cultures. It became so standardised and uniform that, apart from its immense advantages, it looked obvious that its inherent 'steam rolling' effect is being manifested by non-participation of children, parents, apathy, etc. I need not go into it in this paper, as it deserves a separate treatise.

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In order to cater to these non-participating children's educational needs, alternative educational mechanisms were required. A number of experiments, models, evolved over a period of time, which essentially tried to remedy or take care of the aberrations that had cropped up in the formal schooling system. One major characteristic feature of this approach was to target the 'non-participating' section of population in educational process. 'Schooling' was, and is, an essential process to cope with life-needs in the society. 'Alternative Schooling' is the latest label given to such efforts, although they have been called by different names at different times.

Non-Formal Education — A Precursor to Alternative Schooling

The major concern of our country, particularly, after independence has been on Universalisation of Elementary Education. This, however, does not mean that there were no efforts in this direction prior to Independence. Baroda experiments and Sargent Committee reports are landmark efforts in this direction but the articulation of this concern in Art. 45 of the Constitution of India as a Directive Principle of the State Policy gave an impact to this concern. It is another matter that we have yet to realise these even in the first decade of the twenty-first century.

Mahatma Gandhi's Vision of Basic Education

Mahatma Gandhi gave a call to the nation to make education child-centred and community development oriented. Relevance, purposefulness, productivity and total development are the key words of his philosophy of education. His vision of education reflected a broader perspective, with education being linked to various developmental activities in the community so as to suit the common as well as differential needs of the different groups. His thoughts on education are still the guiding spirit for the country in the formulation of alternative educational design for meeting the needs of diverse categories of learners.

Much of what has emerged, particularly in Indian situation, as Non-Formal Education and later as Alternative Schooling, has been drawn largely from the Mahatma Gandhi's concept of Basic Education, signified by Zakir Hussain's *Nai Talim*". As the name connotes, it is New Education and, therefore, by nature and nomenclature it is different from the formal or usual education provided through the schools. It is education for life and through life with child and its environment as the focus points of educational programme.

Basic Concerns in Educational Planning

The subsequent developments in the field of Primary Education clearly point to country's basic concerns. These relate to meeting the challenges of quantity versus quality, equity and responding to the needs and aspirations of diverse groups of children, especially from the disadvantaged sections of the community.

A close look at the country's educational policy on Universalisation of Elementary Education during the past five decades indicates distinct shift from total dependence on full time formal schooling to gradual reliance on some kind of part-time educational programmes that are free from rigidities of formal education and are more responsive to divergent needs of the different categories of out-of-school children.

Towards Development of a Theoretical Framework — Formal Education, Non-Formal Education, Alternative Schooling

In the context of country's commitment to Universalisation of Elementary Education the strategies of Non-Formal Education and Alternative Schooling have been adopted in addition to the Formal Education delivery mode. An analysis of the definitions of these terminologies is likely to help in arriving at a conceptual framework. In the mid'st of innumerable definitions one finds some difficulty to reach to a distinct and clear-cut definition, especially, with regard to the terms frequently used in this context, namely, informal, non-formal, incidental education and alternative schooling. Do these nomenclatures signify totally different concepts? or else do these contain some common components and dimensions?

The term 'Formal Education' denotes a distinct concept, namely, a well defined form, and structure that is a constant factor at all places. The school timings, vacation period, entry age to school, content areas, all are pre-determined and are applicable everywhere irrespective of variations in the learning set-up.

Non-Formal Education (NFE) has been variously defined which sometimes differ with regard to the age-group of learners, the nature and scope of programmes and the like.

Naik in 1977 included under NFE, all sections of education outside the formal system. While elaborating four approaches to non-formal education he mentioned adult education under NFE. In 1975 Ahmed and Combs defined Non-Formal Education as: any organised educational activity outside the formal education system — whether operating separately or as an important feature of some broader activity that is needed to serve identifiable learning clientele and learning objectives. This definition gives a wider concept of NFE by way of covering all forms of activities outside the ambit of Formal School and does not limit it to any specific stage of education.

Rastogi (1978) characterised NFE as an organised systematic effort but of a flexible nature, suited to the needs and problems of the individuals or the specific groups.

This definition, as well, does not mention about the age-group and specific type of programmes that NFE includes.

In 1972 Paulsten defined NFE as structured, systematic non-school educational and training activities of relatively short duration in which sponsoring agencies seek concrete behavioural change in fairly distinct target population. Two important components of NFE have been highlighted by Paulsten, namely, NFE is a short-term intervention and that NFE caters to the needs of district target population.

In 1975, Adishesiah laid emphasis on the methodologies suitable for NFE programme and made special mention about the 'diversity' of learner needs, learning material and the feed-back as the basis of planning programmes. All the above mentioned definitions fail to reflect the Indian context of Universalisation of Elementary Education and National Policy on Education, 1986 (updated in 1992). However, each and every programme outside the formal education system could not be just considered as non-formal education programme.

In the Indian context, NFE connotes the educational programme for out-of-school children in the age-group 6 to 14 years who come from disadvantaged communities in rural, tribal areas, the girls who stay out-of-schools, the children in urban slum areas, the non-schooled children and those engaged in economic activities in urban and rural unorganised sectors of economy. It was expected to provide quality education programmes that were comparable to that of Formal Education programme. NFE is neither casual, informal or incidental. It is a planned intervention directed at enhancing learner's participation, acquirement of well-defined competencies, life-skills and upscaling the level of achievement of learners.

From the analysis of various definitions, review of the salient features of NFE scheme, and the recommendations of the National Policy on Education, 1986 the following functional definition of NFE emerges:

> *Planned and deliberate activities for out-of-school children of 6-14 age group, leading to achievement of learning outcomes comparable to that of formal elementary schools* (Ambasht, 1986).

This definition indicates the difference in the connotations of the term Non-Formal Education in the Indian context and the definition that is propounded by experts in other parts of the globe. Whereas in India the scope of NFE is limited to Universalisation of Elementary Education, in the Western countries it includes a large number of programmes, like Adult and Continuing Education programme, agricultural extension programmes, hobby club activities, skill-based and vocational programmes, any kind of professional courses and the like.

This type of difference in the perception and interpretation of Non-Formal Education in Western paradigm and Indian paradigm has probably necessitated coinage of the term 'Alternative Schooling'.

Emergence of the Term 'Alternative Schooling'

Today the issues concerning provision of educational programmes to unserved areas and meeting the widely divergent learning needs of different categories of learners have sharpened. There is greater demand to evolve a variety of innovative designs based on open-learning approaches so that all the different categories of out-of-school children could get opportunity to avail good quality educational facilities, which they failed to avail. The main focus of this delivery system is to provide more flexibility in the educational content and process to promote diversity. Close linkage with community in the planning as well as programme implementation at the grass root level and decentralisation of management are some of the essential ingredients of management. Alternative Schooling programme has a district delivery system which is different from either Formal Education or Non-Formal Education. In fact the term 'Alternative Schooling' came to stay because of different perceptions of the term 'Non-Formal Education' in the Western World and India. The World Bank, a loan giving agency, would not accede to the Indian definition of NFE, it being materially different from their own in terms of age-groups and other aspects of curriculum, levels of education, etc.

Today, the number of Alternative Schooling centres have increased immensely under the District Primary Education Programme (DPEP) interventions.

Shift in the Educational Policy

From the strategy of opening formal schools we moved to Non-Formal Education programme and gradually the search for a variety of alternative educational designs became one of the significant strategies for reaching the unreached. During this period the launching of Open Schooling programmes generated new hopes before the out-of-school children with greater flexibility in terms of learning without the barriers of age-limit, admission rigidities, more options in the choice of subjects and different combination of subjects, freedom to appear in examination at different interval of time as per one's convenience and preparedness and above all, the credit accumulation facilities.

The constant efforts have been for provision of Quality Basic Education programme, enhancing participation of learners in the teaching-learning processes, attainment of competencies and completion of primary education. There was conscious effort to lay emphasis on attainment rather than on sheer widening of access to schooling.

The Planned Educational Interventions

The planned educational interventions from 1950s to the year 2001 have no doubt resulted in phenomenal increase in terms of enrolment, school building, teachers and curriculum reforms and the training of functionaries. However, the critical factors, such as, high percentage of school drop-outs, existence of non-schooled children, push-out/pull-out children, especially girls in remote rural areas, tribals in far-flung areas, millions of working children in urban slums and rural areas are the real barriers for realising the goal of Universal Elementary Education.

The poor performance of learners attending full-time formal schools as well as of those studying in part-time Non-Formal Education learning centres pose serious challenges. Today the two distinct negative trends stand out prominently. On the one hand, there are habitations unserved by formal school or any other form of educational provision. On the other hand, there are habitations where there are both Formal School and NFE centres in the same locality. These are mostly dysfunctional and people have lost faith in such type of educational programmes. Again, there are a large number of villages where there are Formal Schools but there are no takers. Largely the school timings, locations and curriculum are quite unsuitable for the children. With all the educational policy formulation and implementation of programmes over the last fifty years, we are very much away from fulfilling our Constitutional commitments to Universalise Elementary Education. Other critical issues are:

- Existence of 3.2 crore out-of-school children in the age-group 6-11. (Edcil 1999)
- Out of 200 million children in the age-group 6-14 years, 59 million are not attending schools. Of this 35 million are girls and 24 million boys. (SSA 2001).
- There are 8 States in the country where the literacy rate is extremely low in case of children from tribal, remote rural and hilly areas.
- Meeting the educational needs of as high as 14 million working children. (DPEP CALLING 2000)
- Provision of alternative educational programmes for a wide diverse group of 'Nowhere Children' who are neither in schools nor-accounted for in the labour force.

- Existence of various sub-categories within the generic category of Street and Working Children, e.g. migrant labourers who move out regularly in specific destinations, those who go in for unknown places quite irregularly, street children who belong to a kind of floating population, those working in hazardous industries and are usually invisible. There are also those who are self-employed and do not have fixed working hours. They do not figure in the list of working and street children.

All these variables add up to the complexity of the problem of planning, educational programmes responding to the learner-specific and diverse needs, and life-skills empowering them with learning that results into sustainable development. This is one vexing problem of the country. We have planned educational intervention right from expanding formal schools to opening Non-Formal Education centres and have laid major emphasis on Alternative Schooling. From the year 2000 onwards, there is a growing concern for programme convergence, culminating into the movement of *Sarva Shiksha Abhiyan* where Non-Formal, Alternative Schooling, Mid-day Meals for school children, Innovations in Educational Designs and micro level experimentations — all have been brought under the umbrella of *Sarva Shiksha Abhiyan*. Alternative Schooling forms one of the important components of the strategy for Education for All with the motto *"Every Child in School and Every Child Learning"*.

All the ground level realities concerning profile of Universalisation of Elementary Education in various parts of the country has contributed in evolving the concept of Alternative Schooling to its present form and shape. A critical look at the historical perspective is likely to provide an insight into the need and rationale for shifting from one single strategy to multi-pronged educational intervention designs.

Historical Perspectives

A review of the historical perspectives of educational planning at the Primary level during the post-independence era reveals some interesting developments.

During the first two five year plan periods the main thrust of Universalisation of Elementary Education was opening of Formal Schools in order to reach every village through Formal Education institutions. The assumption was that the poor enrolment in the schools and the incidence of children staying out of the school system were caused by non-existence and shortage of school facilities. In the seventies there was a total change in the policy of Universalisation of Elementary Education; critical analysis of the situations revealed that the socio-economic realities were totally different. A large number of children could not attend the formal schools because of economic compulsions as they had to work for the survival of their own as well as of family members. The school hours and working days did not suit the learner's needs. The girls mostly remained confined to their home responsibilities. When these children were little free, there were no arrangements to join school at their convenience. Even those who enrolled in the school, many of them could not adjust with school culture, environment and curriculum. Result was a large number of drop-out and push-out children from the school. Lack of provision for multiple entry to school added up the figure of out-of-school children. It was, therefore, inevitable to adopt more comprehensible strategies that would be learner-friendly and base its action-plan on the ground realities of the learners and their concerns. In 1970's there was growing sensitivity to look in for alternative strategies. It is at this stage that the conceptual frame for part-time education delivery mode came into the focus in addition to the full time formal schooling strategy.

Education Commission (1964-66) and the New Thrust Areas

The Education Commission – 1964-66 opened up a new horizon in the planning of school education, especially at the Primary level. One of the significant recommendations of the Commission report was exploring the potentialities of provision of part-time education for widening the access to primary education. Some of the relevant recommendations of the Commission relate to the need for reconstruction of the educational system by improving the effectiveness of primary education, introduction of work experience as integral part of general education, improving the quality of teachers at all levels, introduction of ungraded system at the primary level and adoption of part-time education for those who cannot attend full-time schools. This point was re-emphasized in 1967 by the committee of Members of Parliament on Education.

It is during this period (1974) that the Central Advisory Board of Education (CABE) passed a resolution in favour of adoption of multiple-entry system and a large scale programme of part-time education for those children who cannot attend schools for some reason or the other. In pursuance of this resolution, the Planning Commission initiated action for preparing a feasible plan for Universalising Elementary Education. In 1977, it organised a Working Group Meeting. A major policy decision recommended by this Working Group called for identifying viable alternative part-time education modalities for bringing all children belonging to 6-14 years within the fold of education.

One of the significant recommendations of the Working Group (1978) that shaped the subsequent education policies was as under:

Every child should continue to learn in the age-group 6-14 on a full time basis, if possible and on a part-time basis if necessary.

It is during this period that the Central Ministry of Education evolved a centrally sponsored scheme of Non-Formal Education. The Ministry asked the States, especially the then nine educationally backward States to open 500 experimental NFE centres in each of the States. This was the beginning of formulation of massive educational programems in the country to address the problem of non-enrolment and drop-out in schools. NFE, thus, was conceived as an alternative approach for achieving Universal Elementary Education in the country.

The National Policy on Education, 1986 revised in 1992 accorded high priority to the central scheme of Non-Formal Education as an important strategy for Universalisation of Elementary Education. The policy laid emphasis on generating a large and systematic programme of non-formal education. *The Programme of Action* in connection with the effective implementation of the National Policy on Education further stated, "efforts will be made to evolve different models of non-formal education programmes and the agencies implementing the programme will be encouraged to evolve and adopt the most suitable model depending upon the re-assignments of target groups (POA-1986)". These action points, over the years, gave rise to the conceptual frame of what is known today as Alternative Schooling.

NCERT's Contribution in Evolving the Concept of Alternative Schooling

From the very beginning, the major thrust areas of the NCERT had been formulation of strategies and programmes for the education of socially, economically and educationally disadvantaged children. The priority areas of the National Institute of Basic Education, Department of Pre-Primary and Primary Education, Department of School Education, Department of Non-Formal Education and SC/ST as well as of the Department of Non-Formal and Alternative Schooling were education of children in remote rural areas, girls' education, education of children belonging to Scheduled Caste and Scheduled Tribe Communities. The priority programmes of the NCERT in this sector continued to remain education of children in urban slum areas, girls' education and those coming from far-flung areas not being served by any school. Evolving integrated curriculum and materials for ungraded school system, preparation of semesterwise learning materials and support materials for NFE functionaries and giving academic support to Alternative Schooling programmes had been some of the important areas of concern of the NCERT.

The Role of NCERT as Envisaged by the MHRD

The NCERT initiated Action Research Projects (1974-75) located in different socio-cultural environmental situations of Bhumiadhar, Nainital (U.P.), Barauli (Aligarh-U.P.), Bariarpur (Monghyr-Bihar), Mankodi (Chhota Udaipur-Gujarat) and Kilokri (an urban slum of Delhi). It also launched 228 experimental projects in NFE (1978) in different socio-economic and geographical regions of the country through its Regional Colleges of Education (presently Regional Institutes of Education) and Field Advisor's offices. This was an effort to link education with rural development. These action research projects were a kind of micro level innovations to evolve strategies for meeting the educational and developmental needs of learners in a specific locale. The first step in this direction was to make house-to-house, family-based intensive survey of the area to identify educational needs and aspirations of people, their economic pursuits and the villages with high concentration of out-of-school children including drop-outs. The next important step was interaction with village people/local people and networking with all available developmental agencies. This helped in identifying needs of local people; generating public opinion in favour of education and sustainable development of the people as well as mobilisation of local resources. Learner and local-specific materials were developed in a decentralised manner involving local teachers, community members and experts of various developmental agencies as Agriculture, Cooperatives, etc. adopting integrated curriculum in ungraded school model.

The role of NCERT in the implementation of the experimental NFE scheme as envisaged by the Government of India was clearly stated (vide MHRD's letter No. F-1-88/78/School dated 30 June, 1978) by the MHRD as follows:

> *The programme (NFE Experimental Projects) will be implemented by the Ministry through the NCERT at the centre which shall provide the academic guidance and support necessary to the State Department/ Directorate of Education and the SCERT in the State.*

Accordingly, the NCERT took upon itself the responsibilities of evolving models of NFE centres in diverse environmental situations and learning set-up; developing learner-specific and area-specific materials for rural, urban, hilly, desert and tribal areas based on popular economic activities of the children and adults, concerns of girl students, the socio-cultural contexts and life style of people of these specific areas. The life of local heroes from SC/ST communities and folklores and stories were also reflected in the learning materials and teacher materials.

This was the very beginning of the emergence of the concept of Alternative Schooling in the country. The initiative taken by the NCERT to identify a variety of viable and effective local-specific educational designs resulted in the development of the Alternative Schooling as a distinct strategy for meeting the challenges of education of diverse categories of out-of-school children.

The Main Focus of Micro-Level Experiments

The main focus of these projects were mainstreaming of school drop-outs and other categories of out-of-school children, empowerment of children to act as catalytic agents, preparation of local-specific materials to suit the learning needs of the learners, adoption of participatory teaching-learning process based on work experience and environmental studies. Teachers' skill was sought to be improved by on-the-spot NFE centre level training.

Innovative Strategies for Educational Intervention

The strategies adopted by the NCERT were such that through development activities, literacy, numeracy and other subject areas up to the Primary Level were achieved as a by-product of these activities. These learning centres were local-specific and development intensive. These were unique instances wherein instructional materials were developed converting the local contents obtained from the participants of the local villages by educationists and field practitioners. One finds in these experimentations the very beginning of what is popularly known today as Alternative Schooling strategy. As it often happened in the country, we failed to give trial to these micro-level innovations in wider areas to find out their multiplier effects. No doubt we find that these expriments have prepared the ground for the concept of Alternative Schooling today. These, of course, preceded the launching of NFE scheme in 1978.

Another major initiative of the NCERT in the area of part-time education programme for out-of-school children refers to opening of experimental NFE centres in different States. In order to acquire actual field experience with regard to multi-pronged strategies for community involvement, organising NFE centre activities, evolving learning and support materials and generating pedagogy appropriate to the learners from divergent socio-cultural and geographical set-up experimental NFE centres were established in 1978.

The first-hand field experience gained through these experimental NFE centres were instrumental in creating a favourable climate for introducing NFE scheme in the States, training of NFE team at the NCERT level and generating integrated material in the context of participating States.

Some basic NFE conceptual materials were prepared during the project period. The NCERT continued to provide academic and technical support to the States and NGOs in the implementation of centrally sponsored NFE scheme.

From 1970 to date, the NCERT has initiated a large number of educational interventions. The rich field level experience and the wealth of materials developed under different projects, such as Comprehensive Access to Primary Education (CAPE) and

Developmental Activities and Community Education Project (DACEP) concerning education of out-of-school children provided useful resources for utilisation in the Alternative Schooling situations. Today these materials, experiences provide a large pool of resources for the *Sarva Skiksha Abhiyan*. The field-based action researches and the feedback from the four NGOs designated as Regional Level Field Research Stations provided significant data about variety of teaching-learning strategies that are suitable to various socio-cultural environment and geographical areas.

The main thrust of the NCERT had been capacity building at States and Voluntary Organisations in their programmes of Non-Formal Education and Alternative Schooling. The other important tasks pertained to evolving curriculum and teaching-learning materials based on integrated teaching-learning approaches.

Some of the relevent development programmes related to preparation of materials for single teacher schools; preparation of learner-specific materials for street and working children; a series of local-specific materials were developed in the form of popular folk/local legends, stories, games, local proverbs and riddles.

The NCERT strengthened qualitative components of the NFE (read AS) programme by initiating a series of self-learning, and teaching-learning materials. The main focus of the programme was to design a set of innovative materials to facilitate the NFE instructors in handling multi-ability group in diverse teaching-learning situations, the topics and themes were culled out from the formal school curriculum through qualitative integration of various themes and life and living situations of learners from divergent environmental situations.

As mentioned above, the NCERT, under the UNICEF sponsored programme Comprehensive Access to Primary Education (CAPE), developed a series of self-learning materials in modular form. The themes were identified by analysing locally identified problems and converting these into learnable content. These were self-contained learning materials presented in the form of Modules and Capsules. The major problems were given in Modules and the sub-problems were presented in Capsule form. In the development of these Modules and Capsules, a lot of intensive survey of field situations were made with the help of the then Primary Teacher Training Institutions, Village Level Resource Centres, State Level Resource Centres (SCERT) and a good number of NFE instructors and primary school teachers. The content areas touched all the vital areas of lives of children in rural, semi-rural, urban slum and areas with concentration of tribal and scheduled caste children. Developmental activities of specific localities and the life skill oriented activities were also given due place in these materials.

Another series of NFE materials that are relevant for Alternative Schooling delivery system relates to integrated teaching-learning material series based on minimum levels of learning (MLLs). The MLLs were re-arranged as per the four semesters of NFE programme. Each lesson of these books contained four dimensions, namely, note for teacher, textual material, exercises, assignments and some extended activities.

Teaching-Learning Materials in Tribal Dialect

The NCERT launched a number of programmes for development of teaching-learning materials and supplementary reading materials in major tribal dialect using Regional/State language. The materials were woven round the day-to-day life activities of the tribal children and reflected their environmental situations.

Supplementary Readers in Tribal Dialect

One of the significant interventions in this context was development of supplementary reading materials under the title *Meet Our Tribal People.* These materials were built around their popular folk stories and songs to ensure a joyful learning climate through evolving effective teaching-learning process.

Another development in the material preparation was bringing out two books on biographical reading materials on eminent scheduled caste persons and educational development of scheduled caste communities. These materials immensely helped in planning educational programmes for learners coming from SC/ST communities, a large number of whom are unable to take full advantage of formal schooling facilities.

A set of teaching-learning materials for middle level NFE programme were also developed. These were based on identified potential themes and life situations of learners.

The materials developed for the primary level as well as middle level NFE programme are based on the life style and environmental situations of drop-out and other types of out-of-school children, especially from rural areas. These can be profitably used in Alternative Schooling system.

Development of Training Packages for Functionaries of NFE Programme

In NFE programme as an alternative delivery process for Universalisation of Elementary Education the efficiency of all levels of functionaries, especially that of the Instructor is the most critical point. In this regard the NCERT mounted a massive process-based training programme for various levels of functionaries. The training programme at all levels emphasised small group discussion on issues related to transactional process, practical work like collection of local-specific materials and observation and participation in demonstration lessons in live NFE centres. These training programmes were transacted through training modules developed in regional languages. In the emerging scenario of SSA, these materials could be profitably used for Education Guarantee Scheme (EGS) Guruji's and such other functionaries of AS. The training package also included Training Guides for Instructors, Project Officers, Supervisors and Key Resource Persons. The package is available in thirteen Indian languages.

However, due to certain inherent limitations of the NFE programmes and activities, to a large extent, failed to evolve context-specific alternative educational designs to address to the divergent learning and developmental needs of large number of out-of-school children. Some of the negative factors that acted as barriers were: The control of the scheme implementation was largely in the hands of untrained persons, after getting transferred too frequently, inadequate preparations on the part of the States before launching the NFE project at the field level, paucity of learning materials at the State level and inadequate teacher preparation to handle multi-grade teaching situations. Failure in the selection of proper location for NFE centres due to the absence of micro-planning approach was another important factor that acted negatively.

NFE as a strategy for providing part-time educational facilities to the out-of-school learners has immense potentialities.

However, it could not be exploited fully due to lack of provision of necessary inputs at the State level. One can say that its impact has been a realisation and modification or say evolution as Alternative Schooling. These ground level realities have, therefore, called for searching for Alternative Schooling facilities that would be free, on the one hand, from limitations of Formal Schooling and on the other hand, from the shortcomings of NFE programmes prevalent in different parts of the country. All the inputs and feedback obtained through mass movement of NFE programme in the country has indeed contributed to critically examining the different patterns of existing part-time education programme. These have deepened on our insight in understanding the complexities of providing relevant education programme to millions of children with extremely heterogeneous background and concerns.

Profile of Management Pattern in NFE and Alternative Schooling

Alternative Schooling models have been evolved in different parts of the country having wide variations in socio-cultural and environmental set-up. Essentially these are micro-level educational designs, tailor-made to meet the learning needs of specific groups of learners. The decentralised management design evolved under DPEP is comparable with that of NFE programme management pattern developed under Government level NFE programme and those adopted by Voluntary Organisations.

The analysis of management pattern evolved under Government run NFE programme differs to some extent from that of NFE programme organised under Non-Government Organisations (NGOs) and Voluntary Agencies (VAs). Moreover, even among the NGOs/VAs different management systems are obtainable. We may first take the case of Management pattern adopted by the Government run NFE programme.

Fig. 1 clearly indicates that the Government policy envisaged more responsibilities on the part of community in planning and overseeing NFE programmes at the local level. That is why the role of Village Education Committee has been mentioned to extend support at the grass root level.

On the other hand, the style of functioning at the State level, as per the NFE scheme failed to reflect this. Consequently, the management pattern had very little link with the community

MANAGEMENT OF NFE PROGRAMME

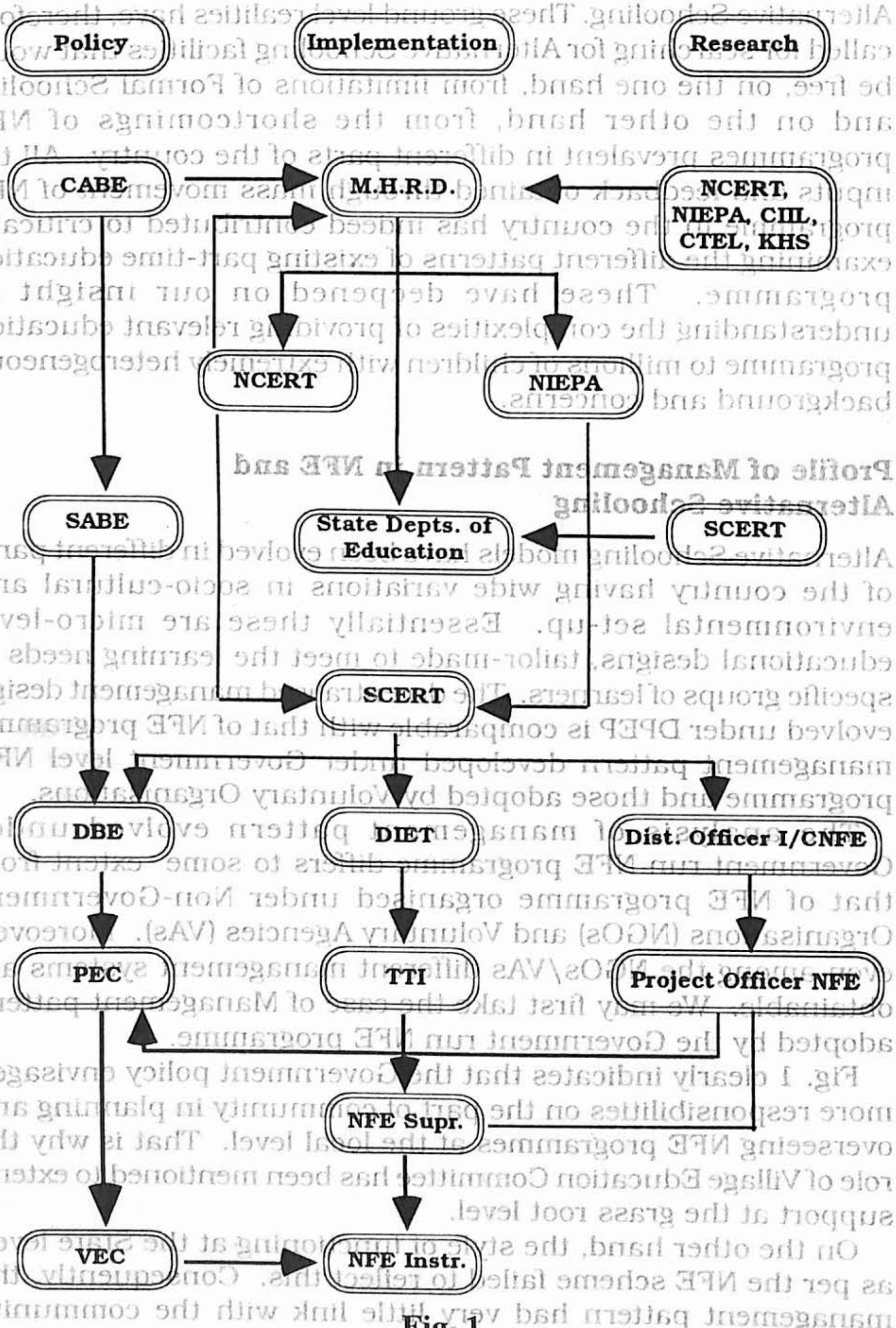

Fig. 1

people and for that matter with the other on-going programmes of the department, namely formal education, adult education and programmes of rural development and of poverty alleviation. As such as, the government run NFE programme started functioning in isolation leading to low level of efficiency.

One finds an altogether different management pattern at the NGO level. This is shown in Fig. 2.

MANAGEMENT PATTERN AT NGO LEVEL

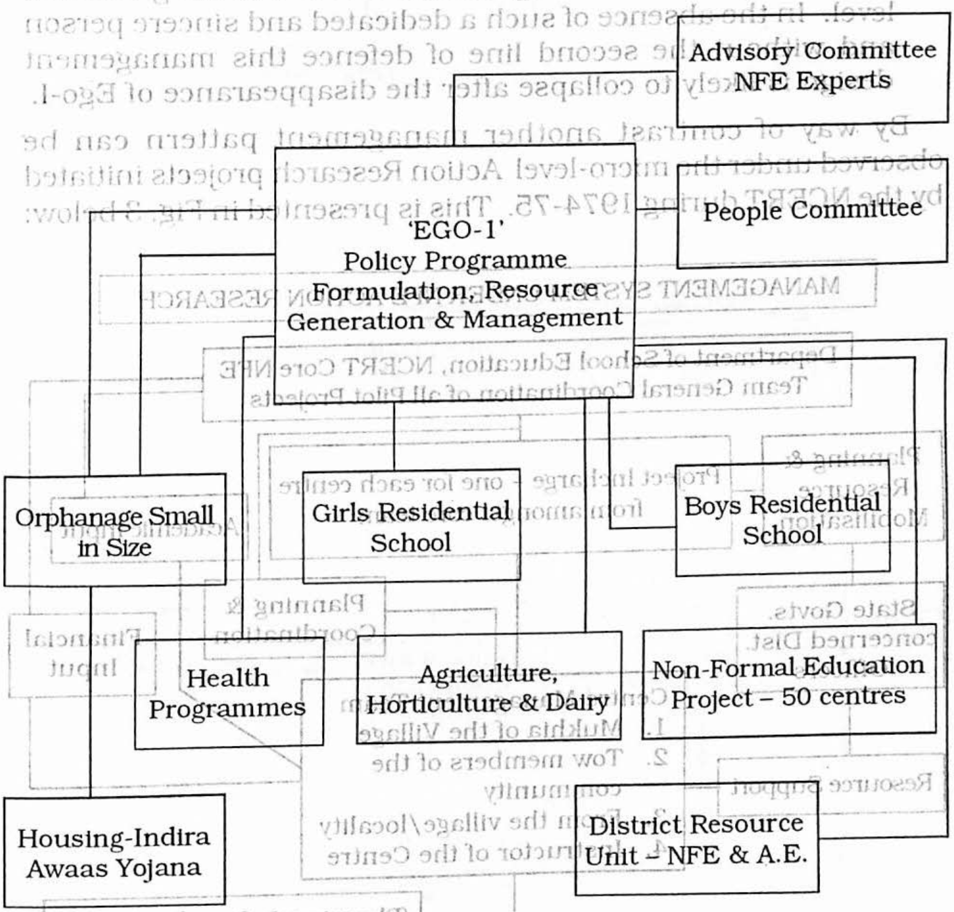

Fig. 2

From the organogram the following points emerge:

- The overall incharge of all the multi-faceted developmental activities of the organisation including NFE is the Head of the Institution.
- The Head of the Institution is advised by an Advisory Committee constituted by him/her.
- The Head of the Institution formulates the policy of the organisation, evolves programme implementation strategies and mobilises both financial and human resources.
- The Head of the Institution is close to people and the community. There is integration of services at the grass root level. In the absence of such a dedicated and sincere person and without the second line of defence this management design is likely to collapse after the disappearance of Ego-I.

By way of contrast another management pattern can be observed under the micro-level Action Research projects initiated by the NCERT during 1974-75. This is presented in Fig. 3 below:

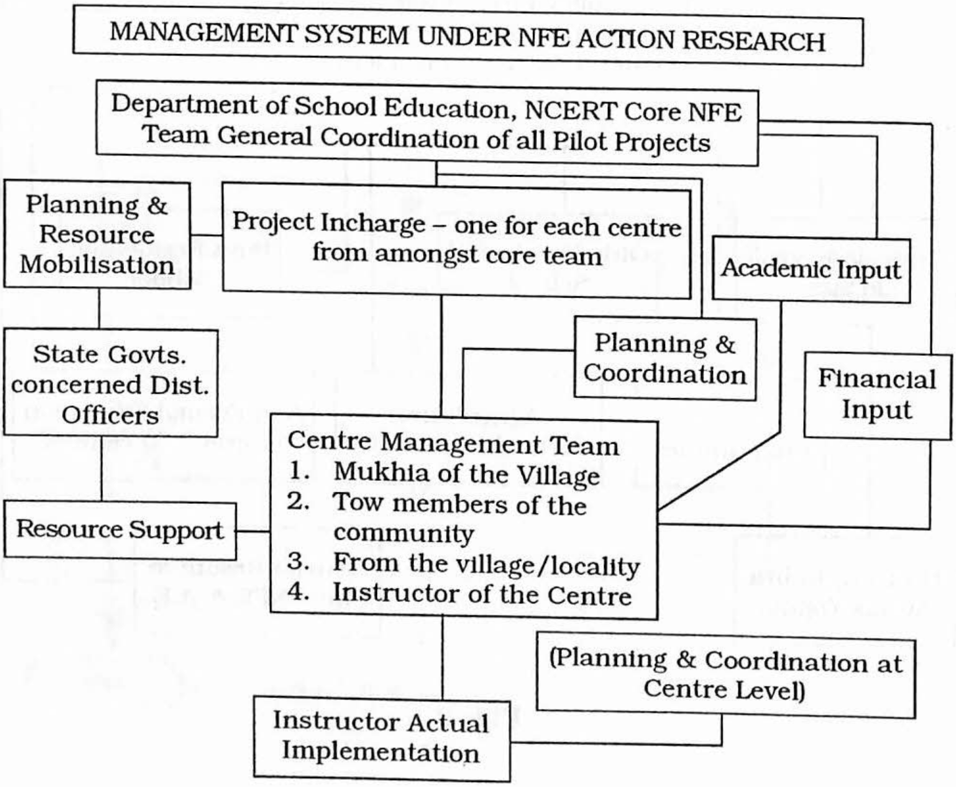
MANAGEMENT SYSTEM UNDER NFE ACTION RESEARCH
Department of School Education, NCERT Core NFE Team General Coordination of all Pilot Projects
Planning & Resource Mobilisation
Project Incharge – one for each centre from amongst core team
Academic Input
State Govts. concerned Dist. Officers
Planning & Coordination
Financial Input
Centre Management Team
1. Mukhia of the Village
2. Tow members of the community
3. From the village/locality
4. Instructor of the Centre
Resource Support
(Planning & Coordination at Centre Level)
Instructor Actual Implementation

Fig. 3

In the management pattern shown in Fig. 3, there is stress on the participation of local community. NFE centre management team is consisted of Mukhia (Village Head) of the village, two members of the community, resource support from the village/ locality and Instructor of the centre. The planning and co-ordination of the centre activities are done at the local level. The Instructor is the key implementer at the grass root level. The overall supervision and guidance rest on the NCERT. State and district level officials are also involved in planning and resource mobilisation.

The management pattern evolved under DPEP in the implementation of Alternative Schooling comes somewhat closer to this kind of management structure.

MANAGEMENT STRUCTURE: ALTERNATIVE SCHOOLING

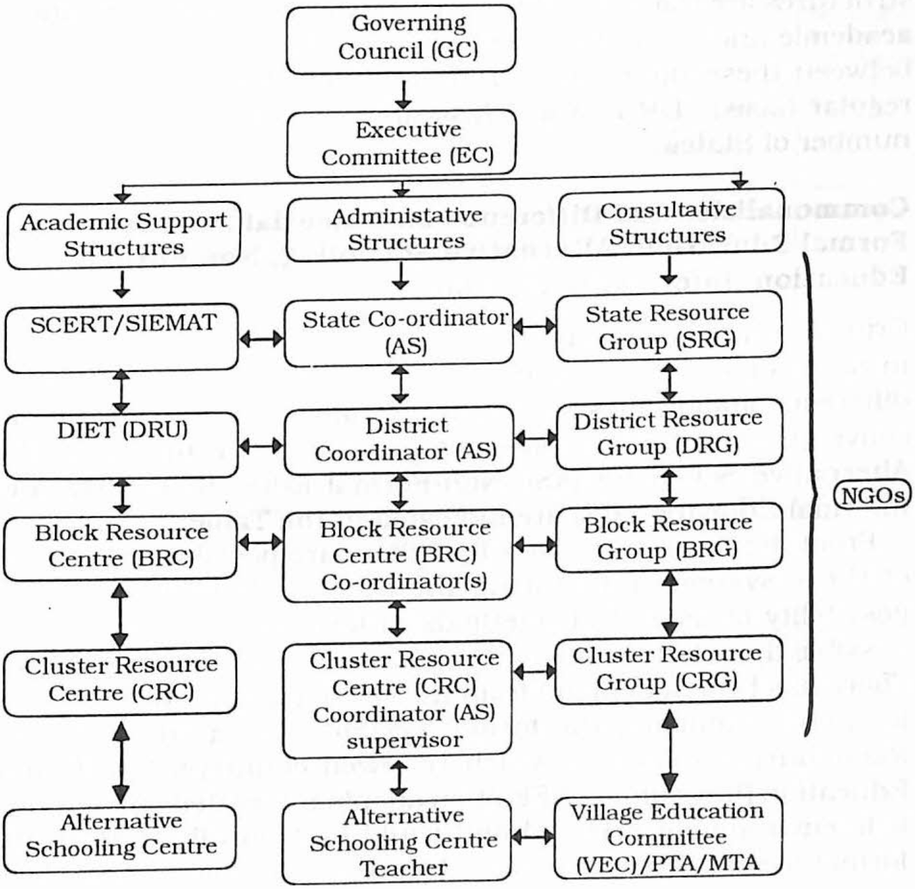
Governing Council (GC)
Executive Committee (EC)
Academic Support Structures
Administative Structures
Consultative Structures
SCERT/SIEMAT
State Co-ordinator (AS)
State Resource Group (SRG)
DIET (DRU)
District Coordinator (AS)
District Resource Group (DRG)
Block Resource Centre (BRC)
Block Resource Centre (BRC) Co-ordinator(s)
Block Resource Group (BRG)
Cluster Resource Centre (CRC)
Cluster Resource Centre (CRC) Coordinator (AS) supervisor
Cluster Resource Group (CRG)
Alternative Schooling Centre
Alternative Schooling Centre Teacher
Village Education Committee (VEC)/PTA/MTA
NGOs

Fig. 4

The DPEP management structure in Alternative Schooling shows the following pattern:

- A decentralised management design;
- Decision-making is taken at a level close to the community;
- Decision-making results from collective thinking at the grass root level;
- The supervisor, co-ordinators of Cluster Resource Centre (CRC), Block Resource Centre (BRC) are supported by consultative groups at the State, District and Block level;
- The SRG, DRG and BRC level consultative bodies help in convergence of on-going developmental programmes in the respective areas for strengthening Alternative Schooling programmes and activities.

In the DPEP Alternative Schooling Management pattern district structures are traceable at three levels, namely, administration, academic and consultative. Effort is made to maintain linkage between these three levels. However, the SRG functions on a regular basis. DRGs and BRGs are not fully functional in a number of States.

Commonalities and Difference on Essential Parameters — Formal Education, Alternative Schooling, Non-Formal Education, Informal Education

Critical review of the different educational designs in operation in various parts of the country reveals some commonalities and difference among these delivery systems. The basic points of convergence in the four systems, e.g. Formal Education (FE), Alternative Schooling (AS), Non-Formal Education (NFE) and Informal Education (IE) are indicated in the Table.

From the Table it emerges that there are possibilities of each of these systems influencing the others. For instance, the possibility of using NFE methods in formal education is quite possible though it is difficult because of the rigidity of the latter. There has been a demand from the conscientious educationists for non-formalising the formal system, as was done by the Ramamurty Committee which reviewed country's Non-formal Education Programme. NFE often adopts integrated curriculum. It is environment oriented and could be fruitfully used in the formal system because of its obvious advantages. Therefore,

Commonalities and difference on Essential Parameters — FE, AS, NFE, IF

	Parameters	FE	AS	NFE	IF
1.	Clientele	6-14 age-group	6-14 age-group	6-14 (originally it was conceived for 9-14)	Not relevant
2.	MLLs	Non-Negotiable (same)	Non-Negotiable (same)	Non-Negotiable (same)	Not applicable
3.	Curriculum	Planned, organised and deliberate	Planned, organised and deliberate based on specific model adopted in a locality	Planned, organised and deliberate	Unplanned, unorganised, and incidental
4.	Curriculum Content	Rigid Curriculum and State Textbook	Mostly State Curriculum content enriched through a variety of local level activities generated as per specific model adopted.	Flexibility in content and material with comparable outcome	No curriculum
5.	Instruction	Whole time	Part-time (organised to suit the learners' convenience)	Part-time (organised to suit the learners' convenience)	Learning (incidental in nature from daily life experiences)
6.	Progression of Children	Yearly progression of learners from class to class	Progression according to child learning	Progression according to achievement, unitwise progression	No such structure
7.	Duration	Stress on completing fixed number of years of education	Duration varies according to educational model adopted	Stress on achievement of certain levels of learning time no consideration	Life-long process
8.	Teacher Profile	Professional whole time teacher	Part-time trained local person	Local volunteer, committed person-non-professional	No teacher
9.	Teacher Training	Long duration one time teacher -pre-service	Trained through In-service programme	Comparatively short duration training recurrent in nature	No training
10.	Supervision	Whole time Supervisor	- Cluster Resource Centre (CRC-co-ordinator / AS Supervisor. - Occasional field visits by consultative committee members.	Part-time Supervisor local acting as guide	No Supervisor
11.	System	Structured largely unrelated to other developmental	Structured related to development activities and life-oriented education.	Structured, related to development and life oriented education	Unstructured, unreleated to develop mental processes

decentralised curriculum planning and flexibility become key concepts in NFE. In the recent years, the efforts of the DPEP programme has been concentrating on decentralization of material production and decentralization of educational planning and implementation.

Local area specificity of the learning material is being emphasised which was envisaged as the key spirit of NFE. Now, there is a move of making the formal system child-centred with joyful learning activities. The teachers in formal education system will have to de-learn their traditional methods and re-learn to new approaches. In alternative schooling system these components are observable under different educational designs. The NFE uses the local youths who have not been provided any pre-service training and, therefore, the rigidities are not with them. It is easier to orient them to the new teaching-learning methods stated above. Similar possibility also exists with regard to alternative schooling which is basically an alternative delivery system of formal school curriculum and locally generated activity and environment based materials.

It could be seen that the goal being the same, the paths to reach the goal are myriad. Alternative Schooling as a concept can be traced to Rajasthan's *Prahar Pathshalas* of the seventies with the modification that the teacher now is a voluntary part-time worker. Content and processes are largely the same with smaller class-size and, therefore, greater individualised instruction. Also it is a single teacher situation.

We are now at the crossroads in terms of a fuzzy conception of Alternative Schooling. It, perhaps, emerges with our concern of comparing it with the learning in the formal schools as well as to provide quality education leading to better performance of learners. The basic issue that emerges is the comparable quality of the end-product. For this MLL is the basic parameter. Much of the problem could be solved if the final pupil evaluation in any of the three systems could be concretised in terms of testing the achievement of MLLs rather than the content of the textual materials.

To standardise the final testing it may be suggested that an MLL-based testing system common to FE, AS and NFE may be evolved. To elucidate, the competencies may become the testing items and it may not be text-based. For this, a question bank may be developed for each competency as given in MLLs without reference to any textbooks and these become the basis of examinations very much like the entrance tests of IITs, Combined Engg., Admission tests, Pre-Medical Tests, etc. On this very concept the author has developed On Demand Examination Scheme of the National Open School. If this can be done, much of the problems can be overcome.

Open Schooling at elementary stage is another viable Alternative Schooling strategy.

Alternative Schooling — Efforts in New Direction

In recent times a large number of Alternative Schooling designs have emerged taking the NCERTs experience and educational interventions and adapted under the District Primary Education Programme (DPEP) in about 236 districts. Also the National Open School has gone into elementary sector in a rather big way by joining hands with NGOs, providing support for local-specific material development, testing, evaluation and certification.

The Clientele

DPEP Alternative Schooling Programmes provide educational facilities to the following categories of children:

- Children of remote/inaccessible habitations.
- Children of migrant families.
- Children engaged in household chores.
- Children working as wage labour due to religious beliefs.
- Adolescent girls

Guiding Principles of the Alternative Schooling Programme

- A variety of strategies will be required keeping in view the specificity of the situation and local conditions.
- Sufficient flexibility has to be provided in the programme to respond to diversity.
- A decentralised management structure has to be created to allow for flexibility.
- The basis of planning should be a fresh habitation-wise assessment of the situation involving the local community.

- Close linkage between the community and the Alternative School is required.
- Apart from knowledge of pedagogic issues the teacher must be aware of every child's background, the social and financial condition of the families, etc.
- A system of continuous and comprehensive academic support to teachers is essential for upgradation of their academic skills. Teachers should get a forum for collectively sharing their problems and learn from peer group.
- There is a need to adopt an appropriate pedagogy based on the principles of child-centred, activity-based teaching-learning for effectively handling multi-grade, multi-level situations obtainable in different learning set-up.
- Locally relevant and life-centred curriculum should be generated. Emphasis needs to be given on material-rich school environment.
- Continuous and comprehensive evaluation of learners through different kinds of activities should be evolved.
- The examination for certification should be non-threatening to the learners and the holistic development of the child should be taken into consideration.

The very basis of Alternative Schooling are:

- Micro planning
- Diversity and flexibility
- Decentralised management system
- Convergence of efforts of different agencies working in a specific area.
- Quality education
- Community involvement

Preparatory Phase

At the preparatory phase a lot of time was devoted for micro-level survey of low literacy pockets in the selected districts, evolving norms for opening of Alternative Schooling Centres at suitable location, consolidation of survey data, estimation about the total number of centres required and the like. This was followed by intensive environment building process for creating demand for opening of Alternative Schooling centres. The next stage was capacity building at various levels. The core faculty as well as the district co-ordinators were exposed through on-the-spot visit to operational aspects of innovative efforts made by organisations with proven experience in this area, namely Rishivalley Education Centres, M.V. Foundation, Lokjumbish, Bodh Shiksha Samiti, Nalanda, Loreto Dary School, Siyaldah, Indian Institute of Education and some other Institutions with rich experience of organising alternative educational programmes for the marginalised and disadvantaged group of children.

Alternative Schooling Designs under DPEP

Some of the designs of existing Alternative Schools in the country are:

- full-time schools for children of remote and unserved habitations;
- long and short duration camps for non-enrolled and drop-out children in habitations served by schools to bring them to the learning level appropriate for their age, and then enrolling them in schools;
- bridge-course and vocational-course during the vacation period, for those who are left behind in their respective classes due to long absence or irregular attendance, for reasons like seasonal migration, etc.;
- schools for children of migrant labourers in the sugarcane fields and salt farms;
- seasonal hostels for children of families who migrate during lean agricultural seasons;
- intervention in *maktabs* and *madarssas* to reach out to the children, specially girls belonging to Muslim communities;
- schools with specially designed curriculum and materials for adolescent girls;
- specially designed strategies to cover children in the 3-11 years age-group, with a view to release girls from the responsibility of sibling care;
- strategies for education of deprived urban children including children from recognised and unrecognised slums, street children, domestic workers, etc.

The educational designs that are not frequently found in different States are:

(a) Shiksha Ghar
(b) Bal Sabha
(c) Prahar Pathshala
(d) Upgraded Maktab – Madarssas
(e) Rishivalley-based Alternative Schooling Centres
(f) Camp Mode and Bridge Courses
(g) Alternative Schooling for Working Children

Alternative Schooling centres function for about four hours a day. This includes preparing for the lesson and transacting the lessons. Instructors are required to meet guardian and community people at least twice a week.

Training

Training programmes are being organised keeping in view the requirements of the specific model in which the Instructor is working. A good number of training modules have been developed involving the functionaries of Resource Organisations, such as, Nalanda, Rishivalley, CREDA, Lokjumbish, Bodh Shiksha Samiti. Separate Training Package has been developed for Instructors, Supervisors, Block, Nyay Panchayat and Village Level functionaries.

A number of concurrent evaluation is in progress at various levels to find out the impact of these interventions on the achievement of learners. A full-fledged evaluative study is expected to provide useful feedback and directions towards quality control of our educational process at the primary level.

Issues

A number of issues have today generated concerning the quality control of educational designs based on multiplicity of approach and modalities using a variety of learning materials and methodologies. Equivalence of models in terms of standard with respect to the basic parameters and their potentiality for multiplier effect and sustainability are other important points of debate.

New Directions

During the year 2000 there was a conscious effort towards convergence of programmes and approaches concerning realisation of the goals of Education for All – the country has launched the *Sarva Shiksha Abhiyan.* This provides the umbrella under which all the programmes pertaining to Universalisation of Elementary Education have been merged. NFE and Alternative Schooling now form important components of Sarva Shiksha Abhiyan (SSA).

The Government Policy emphasises that Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) would continue to have three components as in the earlier NFE scheme:

- State run EGS schools or a variety of back to alternative schools, back to school run by Voluntary Agencies.
- Experimental projects for innovative pedagogical strategies run by VAs.

The EGS and AIEs would form part of the SSA. Under SSA, every district would prepare a District Elementary Education Plan which would include a range of interventions for school improvement in regular schools, ECE along with intervention for education of out-of-school children (*Sarva Shiksha Abhiyan,* – MHRD Document, 2001).

Educational scenario in the coming years will provide us clear indications about how far are we from the cherished goal of Education for All — Quality Education for All. Much of it depends upon effective convergence of Non-Formal Education, Alternative Schooling, Education Guarantee Scheme and Alternative and Innovative Education. As it transpires Alternative Schooling is an evolving concept still in the formative stage.

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Trends in Examinations and an Extended Vision

VED PRAKASH*

Introduction

It is sobering to realize that all over the world there is now hardly an individual who during the course of a life time will not be subjected to one or more forms of examination. This signifies the sheer centrality of the examinations in the kind of world we live in, not simply as an educational but more importantly as a social phenomenon. Examinations have been in existence ever since the humanity exists. Their traces are found in the history of China as far back as A.D. 909 where individuals were selected for high office of public responsibility through an influential examination system. The Indian mythology is also replete with -instances of examination of both intellectual and physical prowess. The oft-cited names of Lord Rama from the *Ramayana* and Arjuna and Eklavya from the *Mahabharata* invade the consciousness of every Indian when it comes to royal competition of human potential. The *Bible* too illustrates the incident of examining competencies of the fugitives of Ephraim through oral testing. Interestingly, the system in those good old days was open, fair and transparent because the feats were witnessed by scores of people.

The present day scenario portrays a vitiated picture of examinations. They are both embraced and excoriated often by the same people for varied reasons and sometimes by different people for the same reason. In Japan, examinations are constantly castigated for the damage they cause to the society by driving the young ones to take extreme measures. On the other hand, the Japanese take pride in the performance of their youth that they demonstrate during international comparisons. Though examinations have drawn increasing fire the world over on several counts, they continue to occupy a leading place in the educational arrangements of most countries.

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Scenario in Some Selected Countries

Most of the nations view examinations as low cost means of influencing the quality of what teachers teach and what students learn in school. In Japan, people place extraordinary emphasis on scholastic success measured through examinations. Education is primarily linked with the success in examination. They use highly competitive examinations for allocating seats to institutions of higher learning and that has eventually led to mushrooming growth of coaching academies. The French employ baccalaureate examinations, which is uniform in timing, content and structure across the entire nation, as a vital tool to university entrance. They impose certain restrictions in some popular faculties like medicine, dentistry and engineering. Unlike French practice, the examinations in Germany are locally set and administered by the examination boards. However, at the end of upper secondary they offer a certificate of readiness for higher education through an examination known as 'Abitur' that allows pupils to join any university programme there except like medicine and engineering. The erstwhile Soviet Union used to have combined features of the German, French and Japanese models. In England, the General Certificate of Education, 'O' level is taken at the age of 15-16 and the 'A' level is taken after two years of specialized study in either of the proposed main streams like science, social science and business related subjects. The results of these examinations are considered quite important, though not decisive, in determining university admissions which are decided by universities on the basis of criteria set by themselves.

Sweden has replaced the uniform national examination by a nation-wide system of regular assessment, which is locally administered. A simple certification that a given programme of study has been satisfactorily completed is good enough. In China, the imperial examination system was retained through successive regimes until the end of Quing dynasty in 1909. The idea of highly centralized examination system was rejected after the cultural revolution. They have examination at the end of nine-year compulsory schooling which determines students' movement to various forms of secondary education. A subsequent examination at the end of secondary school determines university entrance. The United States of America does not have any official national system of examination. There are variations across the states. Some states conduct state-wide achievement tests to validate the award of graduation certificate. For most of the students the high school diploma is awarded after satisfactory completion of twelve years' schooling. Admissions to universities are invariably determined on the basis of scores awarded on Scholastic Aptitude Test (SAT)or American College Testing (ACT) programmes.

Indian Scenario

In ancient India, the examinations were more of informal nature as the students used to live in direct contact with their teachers in *Gurukulas*. It was during the British period that the entire system of education underwent a radical change. The system laid emphasis on developing manpower that suited the requirement of the state. It brought in the era of external examination that led to the establishment of Boards of School Education. The system of 33% marks as the cut-off to declare a student pass is the legacy of the British system.

For nearly half a century, as they have been functioning, examinations have been recognized as one of the debatable features of Indian education system. Soon after Independence, it was felt that the education system needed overhauling. Consequently, a number of Commissions and Committees were set up to look into the matter, each one of them straining to reform the impasse created in examinations. The first of its kind was *University Education Commission* (1948-49) which recognized the problem of examination as chronic and regretted that examinations were not organically related to the process of education. The Commission recognized the need for improving the reliability and validity of examinations. The *Secondary Education Commission* (1952-54) also emphasized the need for reforming examination besides recommending the introduction of internal assessment and the use of continuous and comprehensive evaluation. In 1956, the All India Council for Secondary Education organized a seminar on examination reforms. Besides other recommendations for improving examinations, the seminar also recommended the creation of Central Examination Unit to work in the specialized area of examination reform in the country. With the setting up of the Central Examination Unit in 1958, the examination reform programme became a national movement.

The *Education Commission* (1964-66) made a very comprehensive review of the then prevalent examination system in the country and suggested that testing should be diagnostic and external examinations be made more reliable and valued by raising the competence of paper-setters and examiners. Another landmark in the history of examination came with the *National Policy on Education*, 1986, wherein examinations were visualized as powerful instruments for improving the quality of teaching-learning process. The Ramamurty Committee (1990) for review of the National Policy on Education, recommended that students could accumulate credits and they should be allowed to transfer those credits in case they change their institutions or boards. Besides, it also recommended that students should be allowed to have multiple entry in the education system. The *Programme of Action on National Policy on Education*, 1992 underlined the significance of introduction of continuous and comprehensive evaluation, use of grades in place of marks and setting up of the National Evaluation Organization as a quality control mechanism.

In most part of the country the children are tested through teacher-made paper and pencil tests during the initial nine years of schooling. They are mainly employed for assessing only the cognitive learning outcomes and that too in a very truncated way. Assessment of non-cognitive learning outcomes is completely ignored. In most of the states, the first level public examination is conducted at the end of ten years of schooling followed by another public examination at the end of Class XII. There are only a few instances where Class XI examination is also a public examination. Besides, there are some states that have introduced the first public examination even at the end of upper primary stage of schooling.

Trends in Examinations and Proposed Alternatives

The relationship between examinations, standards of teaching and learning are intimate. Of the three, examinations play a pivotal role so much so that any improvement in them automatically results in the improvement of others. Therefore, the objective of reforms should be to make examinations instruments of quality education. The justification for examination reforms arises not merely from academic considerations but also from socio-economic and political view-point. Examination along with teaching and learning, in fact, constitute the trinity of functions in the educational process. Over the years they have tended to be instruments for testing memory. Learning today has become a rather mechanical process of acquiring skills and teaching has become largely a process of coaching for examinations.

Notwithstanding the reviews and recommendations made by various Commissions and Committees, nothing constructive in the way of a sea-change has appeared on the scene. At the end of over half-a-century, examination system in the country could not step out of its age-old slough. It is in need of a rejuvenation therapy. There are moments in history when a new direction has to be given to an age-old process. That moment has now come. It is a straight arrow time to address ourselves to the burning issues pertaining to examinations, most of which do not have any state or national boundaries. Some such issues with alternative proposals are enumerated in brief in the subsequent paragraphs.

Scholastic vs Non-scholastic

The present system of formal education lays emphasis on the growth and development of scholastic aspects while the non-scholastic aspects that are equally important are completely ignored. All those connected intimately with the learners — the school, the parents and the society — shelve the responsibility for the development of these outcomes. It is true that it is difficult to structure and assess these learning outcomes as compared to scholastic learning outcomes. However, assessment of non-scholastic outcomes need to be institutionalized by way of developing simple tools that can be conveniently administered, scored and their results recorded at least once in three months. Besides, they should also be shown on to transcripts along with scholastic attainment.

Memorization vs Problem-solving

The ever increasing practice of asking textbook embedded questions has resulted in over emphasis on cramming. As a consequence, there is a noticeable tardiness in the development of problem-solving skills. It requires a shift from conventional testing to 'performance testing' which not only measures how much a child knows but also ascertains how much a child understands and how much can a child do. What is good about this kind of testing is that teachers make observations from naturally occurring classroom environment which help them make judgement about individual students. Performance tests are, indeed, good tests but their management requires intensive training programmes. But one thing is certain about them and that is that if they are earnestly used, they can make testing much more acceptable than it was ever before.

Stereotyped vs Balanced Question Paper

The question paper is the most vital component of any examination system. By and large the question papers that are used in the examinations are stereotyped and based largely on factual information. They neither probe the untapped potential of the candidates nor do they elicit their enthusiasm. It is like one of those end-of-the-academic-year ritual which one has to go through impassively without any sense of involvement. Though considerable improvements have taken place in their design, blueprint, content coverage and marking scheme especially at Boards's level, there is still a lot more to be done to make this tool more reliable and valid. These measures can be effective only when the paper-setters and moderators are trained in the art of setting balanced question papers.

Essay Type vs Short-answer Questions

Examinations invariably resort to the inclusion of essay type questions. The scope of these questions is narrow because they cover only a limited course context, thus adversely affecting the context validity. Predominance of essay type questions promotes the students to do selective study and thus increases the element of chance factor in examination. Not only this, it also frustrates the concept of mastery learning. If essay type questions are broken into a number of short-answer type questions, it will help increase the content validity on one hand and reduce the element of subjectivity in marking on the other hand. Concurrently, it will also enhance the reliability of examinations.

Subjectivity vs Objectivity in Marking

Use of long answer and short answer type questions in examination leads to subjectivity in marking. It is evident that there is a lot of inter-examiner and intra-examiner variability in marking and the consequence is misclassification of students. Due to this, the reliability of examination suffers a serious blow. This may be overcome by preparing a detailed marking scheme along with specific guidelines for examiners. Its implementation may be ensured through centralized marking system where each examiner should mark a particular question before she/he passes it on to another. This will not only hasten the process but also help increase the reliability of examinations.

Raw Marks vs True Marks

The marks awarded in examinations are raw marks, for they suffer from a number of imperfections some of those are identifiable and many more which are not identifiable. Thus, they do not reflect true abilities of individual students, yet they are used for making distinction amongst students on the basis of single score unit. To top it all, marks of one subject are added to the marks of the other subjects on the basis of the myth that 60 marks in English and 60 in mathematics are alike regardless of the range and the variance. This is not technically correct, for various kinds of errors which creep in and contaminate the marks work as a deterrent for taking raw marks as absolute marks. Scaling of marks is a technique that can help overcome this problem and ensure the comparability of marks not only across the subjects but also across the Boards as also over the years.

Numerical Marking vs Grading

The current practice of awarding numerical marks suffers from a number of discrepancies caused because of myriads of errors besides the inherent limitations of the interval scale employed for award of marks. In view of wide variations, assessment of students' achievement in terms of numerical marks and their distinction on the basis of single unit is completely unjustifiable. It is, therefore, evident that the complexity of human nature cannot be precisely measured on an interval scale. This shortcoming can be overcome if the students are placed in ability bands that represent ranges of scores. These ability bands may vary according to the number of categories one wishes to employ for the classification of students. Each ability range may be designated with a letter which is called a grade. There are a number of ways of doing it like using direct grading, absolute grading or relative grading. Grading has a number of advantages. It reduces the significance attached to marks; covers the entire range of distribution; diminishes the influence of the difficulty level of question paper; provides for comparison of students' performance across the subjects, boards and over the years; subscribes to the fact that learning is evenly distributed; allows the additivity of grade values using relative grading method and lastly and more importantly it eases the avoidable pressure on the students and parents and saves them from passing through traumatic experiences.

Theory vs Practical Examination

Until this day the practicals are conducted only in a few subject areas while a number of other subject areas are treated as out of bounds. Further, the prevalent practice is that of clubbing of the marks obtained in theory and practical. Generally, a large number of students secure a very high percentage of marks in the practical examination and fair poorly in the theory papers. But when combined together they easily secure a good pass percentage. This projects a distorted version of their ability, which is highly improper. The very essence of conducting theory and practical examinations separately stands defeated as each of them aims at assessing altogether different kinds of skills. Therefore, there is a need to restructure the conduct of practical examinations in various curricular areas and to project their assessment separately and not to merge them together in one total.

One-fold vs Many-fold Techniques of Assessment

No single technique of measurement is good enough to capture the real potential of the examinee. It warrants the application of multiple techniques of measurement. Conventional type of question paper does not provide for the application of anything else other than the paper and pencil tests. In this type of examination, a large number of abilities remain untested. This effects both the reliability and the validity of the examination. What is urgently required is a shift from the conventional approach to the modern one by using multifarious tools of assessment including performance tests, which can provide a comprehensive profile of students' progress. This may be made a reality if we resort to continuous and comprehensive evaluation scheme.

Single vs Multiple-stroke Examination

It is unrealistic to measure all behaviour possibilities acquired by the students over a period of one academic year through a single stroke examination of three-hour duration. Not only this, their sustained efforts of one full year are judged by the examiner in a short span of a few minutes. This raises a question mark on the entire system of examination because it does not take into cognizance the work done throughout the year in terms of projects, assignments, tests, class-work, etc. It is, therefore, imperative that the performance displayed by the students' on various kinds of tests and assignments over the year should be taken into cognizance for the purposes of capturing and documenting their real potential.

One-shot Examination vs Continuous and Comprehensive Evaluation

The one-shot written examination conducted towards the end of the year is not an effective measure for gauging all the abilities, cognitive and non-cognitive, of the learners. Nor does it promote the application of multiple techniques of assessment. Nor does it keep pace with the growth and development of the learner which warrant continuity. This may be made possible only if the Continuous and Comprehensive Evaluation (CCE) becomes an integral part of teaching-learning process. The scheme of the CCE is inspired by the age-old adage that it is the teacher who knows the learners best. and, it is through this teacher that we would get to know how the learner is progressing with reference to her own earlier achievement, with reference to her peer group as also with reference to the expected levels of attainments set by the teacher. Besides, it promotes regular study habits and has an in-built scope for diagnostic and remedial measures. Therefore, implementation of CCE needs to be ensured at all stages of school education.

Annual System vs Semester System

The present annual system does not allow the learners to move with their own pace. It is highly rigid and does not provide for flexibility. Students have to carry the full load of all the papers and then they are expected to qualify in all the papers together. Nor does it inculcate regular study habits amongst the students.

They work only when examinations are on their heads. This rigidity pushes a number of students out of the system. This calls for the semesterization of course content.

The greatest advantage of the semester system is that it not only reduces the load of the students and enables them to move with their own pace, it also inculcates regular study habits in them. Since it divides the academic year into two semesters, it also has the advantage of providing upward mobility. The students may clear the backlog even after having moved to the next semester. It may be introduced with or without credits.

Backwash Effects vs Mastery Learning

When examination results determine learners' advancement through school and their later life's opportunities, parents understandably put pressure on teachers to ensure that their child succeeds. They hold the school system in general and teachers in particular accountable for their child's success in examination. The backwash effect of this public expectation from teachers is that teachers adjust their teaching to what the examination will cover to ensure that their students secure good marks. This obviously restricts the teaching-learning process to "what is tested taught" in the classroom which frustrates the very concept of mastery learning. In view of this, efforts are to be directed to usher in the healthy practice of examining what is taught rather than teaching what is generally examined.

Mismanagement vs Management Examinations

We often come across the startling news about the leakage of question papers, mishandling of answer-scrips, mismatch of roll numbers, errors in making and totalling, award of grace marks, declaration of wrong results and many more. Most of the examining agencies still appear to be technology-shy and are hesitant in adopting the latest techniques of computerization and optical scanning.

Examining agencies need to carry out advance planning. Proper coordination and close monitoring of various activities pertaining to pre-conduct, conduct and post-conduct phases. The process of declaration of results can be stepped up by using the modern technology like computers, fax, scanners and other internet facilities. The use of computers would also enable the examining agencies to compute necessary statistics which they might use for establishing the creditability of their examinations. The computers may also be used for computing the passing and failing probabilities with a view to awarding the grace marks on scientific basis.

Single Set vs Multiple Sets of Question Paper

Over the years examinations have occupied such a central place in human life that most people consider them as key to success. As a consequence of that the stakes are very high which eventually drive a number of learners to use all kinds of unfair means to quality them. Some tend to combat this menace by introducing multiple sets of question papers. The wisdom of this move has been questioned by the cross-section of the society because it has led to many apprehensions in the minds of the examinees in particular and the society in general. Though some agencies have based this experiment on Madan Mohan Committee, they did not carry out any proper study prior to its implementation. There are a number of issues associated with it right from ensuring parallelism of question papers through judgement validation to ensuring statistical equivalence across the different sets of papers. One needs to demonstrate it empirically with a view to establishing its feasibility besides allaying the fear from the minds of both the examinees and the parents.

Re-totalling vs Revaluation

It is the right of every student to be evaluated as accurately as possible. With a view to ensuring objectivity and transparency, most of the examining agencies prepare and supply the detailed marking scheme for the guidance of examiners. If the answer-scripts are marked conscientiously and the agencies ensure the adherence of the examiners to the marking scheme, the need for revaluation should not arise. But in spite of all the precautions carried out by the agencies, there may be some lapses making revaluation imminent. In such cases request for revaluation should be conceded to not only to provide natural justice but to make it all the more transparent and tangible. Though it might cause some administrative inconveniences to the examining agencies, the merit of it far outweighs the practical difficulties. In this it may be understood that revaluation need not be confused with re-totalling. It is, indeed, reassessment of the answer-scripts.

Compulsory vs Optional Public Examination

Though examinations have drawn increasing fire on several counts and have succeeded in generating a lot of debate and discussions, it has somehow not created the debate over a very pertinent issue whether or not they be made optional. The public examinations are invariably conducted for the purposes of certification and promotion. However, with all the drawbacks of these examinations, there has been a recession in their credibility. As a consequence, the institutions of higher learning have started conducting their own entrance examinations. The ultimate victim is the poor child who ever since his entry into schooling is constantly subjected to examination galore. He or she suffers from the examination syndrome all through his or her education career. In view of this, there is a need to debate whether or not the public examination be made optional.

Numerous vs Singular Entrance Examination

The prevalent practice of writing a number of entrance examinations for admission to institution of higher and professional learning is a traumatic experience for young children. The onslaught of the competitive entrance examinations begins much prior to completing Class XII. This not only results in financial burden on the parents but also turns the student into a nervous wreck.

There is a crying need for the unified and efficient testing mechanism for entry to various courses in institutions of higher learning. Perhaps this was the intention of those who framed the *National Policy on Education* in 1986. They even enshrined this aspiration by recommending the establishment of the National Evaluation Organization. Had this body come into being, many of the problems would have been solved. There is an urgent need to form some syndicates for administering entrance tests for various programmes in the country. This would save both students and parents from physical and financial hardships. It is good that there is a move to introduce the National Education system of Testing (NEST) for the purposes of conducting a common entrance examination for a number of engineering institutions in the country.

Armchair Efforts in the Direction of Reforms

In India the managers of education have never ever gone to the extreme of advocating the abolition of examinations, for they have always been considered as inexpensive tools of influencing the quality of education. But if examinations are necessary, a thorough reform of these is still more necessary. The most challenging aspect of any reform lies in its implementation. This aspect of the reform becomes still more formidable when the diversities in the educational system are so vast as in a country like ours. The necessary infrastructure for orienting teachers and training examiners — a costly proposition — has not been figured out. Such 'armchair" efforts will not bestow the blessings of reform in the required direction.

Any programme of reforms will not succeed if it is 'top heavy'. Examination Reforms, ironically, have suffered from this lacuna all throughout. Besides, none of them has been implemented in its totality. It has always been a piecemeal approach with the result, it has failed to achieve its intended goal. Many aspects of the reforms have remained confined to the covers of policy files or at best have been the monopoly of a few professionals. The purpose of examination reforms, to bring about qualitative improvement in the teaching-learning process, has remained intangible and thus has failed to percolate to the grassroot level.

Some More Strategies in Testing

There are a number of issues in testing which require immediate attention. Over and above the issues that have already been discussed in the preceding paragaphs, some of them are given as under.

Day-to-day Testing and Externally Imposed Testing

There is a need to strike a balance between the day-to-day testing and the externally imposed testing. While the former may be carried out by the teacher for formative evaluation, the latter may be organized by the Block Resource Centres or by the Cluster Resource Centres or by the district level agencies and may be used for summative evaluation. Majority of the tests used for formative evaluation may be curriculum embedded tests made by the teacher. These tests would be useful in pre-assessing learners' needs, monitoring learning progress, diagnosing learning difficulties and determining the degree to which intended learning outcomes have been accomplished. These tests may be used quite frequently depending upon the requirements. They may be used once every two weeks besides day-to-day classroom observations. The school calendar should make adequate provision for such testing which on an average may be ten per cent of classroom time.

Programmes for Bright and Slow Learners

Though there are some regular programmes for the identification and nurturance of brilliant students, there is little for the identification of slow learners. The state may initiate special testing programmes for the identification and nurturance of both exceptionally bright and slow learners on a larger scale. Appropriate methods for their identification may be invented using multiple sources and multiple criteria. Having identified these students, group formation may be carried out using different criteria with a view to providing them differential treatment. Nurturance programmes may be arranged for these children through special summer programmes. We may identify a number of such institutes where special opportunities are provided for the unique needs of students identified as bright and slow learners. Sector-wise senior rank coordinators may be identified in each state who could not only assist the state and the national agencies in the identification process but also look after the fulfilment of the needs of all such children.

District-wide Assessment Programme

Findings of the achievement surveys that have been carried out sporadically reveal wide variations across the districts in learning achievement. It may be worthwhile to make district-wide efforts that attempt to consciously link testing with instructions. In this move what is desirable is that each district may come up with a minimum level of performance called expectations. They may become guidelines not only for district assessment programme but also for teaching. Such an exercise would obviously warrant identification of key skills to be mastered through district-wide consultations involving personnel from the cross sections of the society. Subsequently, learning outcomes may be clearly defined so that instructions may be focussed on commonly held objectives and students may be assessed a number of times to assess their progress relevant to those kills. Test results may be studied to help identify objectives that are not realized and also help organize remedial programmes for needy ones.

Country-wide Assessment Programme

No nation can afford to be ignorant about the health of its education system. It is, therefore, imperative that it should mount nation-wide achievement surveys in different curricular areas to keep a tab on the general health of its education system. They may target various stages of school education. The periodicity of such surveys may be decided in view of both the nature of the subject area and the national standards displayed in terms of students' achievement. Foundation subjects may be covered more frequently than others. The purpose of such surveys should be to ascertain what students know and not to make any judgement what they ought to know. The testing programme under this should be so designed that it captures the census -like data for reporting to the public on the educational achievement of children. The intent of such surveys should not be to compare invididuals or schools or districts or states but to report the levels of students' achievement to the public, policy-makers and to the professionals. Let all the stake-holders view them in their own ways and chalk out their own strategies for the purposes of improving the quality of their learners. Findings of such surveys may be quite helpful in revising the curricula and reinventing newer strategies of transacting competencies and assessment techniques.

National Evaluation Organization

It is widely known that there are glaring disparities amongst the various State Boards of School Education. There is no national or a common yardstick with which the standards of various examining agencies could be equated at the end of secondary and senior secondary stages of school education. The situation is still worse at primary and upper primary stages. Further, it appears that what is being tested through these examinations is not relevant to the world of work. This has led to conduct of multiplicity of examinations by different professional institutions of higher learning. This has put in unnecessary strain on the minds of both students and parents.

These problems may be overcome by setting up of a national level body that may ensure uniformity of standards in examinations and evolve national standards against which the performance of the students coming from different states could be compared. This would help project the true profile of each state at the macro-level and of individual institutions and individual learners at the micro-level. Over and above this, the proposed organization can make conscious efforts to achieving the goal of de-linking degrees from jobs, act as a watchdog institution in testing, undertake capacity building programmes, besides undertaking research for perfecting techniques of evaluation and documenting and disseminating the work done in the field of testing. The proposed institution can also undertake accreditation of institutions and provide consultancy in the area of testing.

Computerized Adaptive Testing

The time appears not too far when testing without computers may be considered a travesty of justice. It has been made feasible due to latest development in testing techniques. There are a number of testing organizations which are already into it. They are making the "examination-on-demand" possible. A student can just walk in, sign for the test, sit on to the terminal and can take the test. No sooner, the student finishes the test than she will get her marks printed on to the transcript. The test administrator will simply sign and hand it over to her.

In this testing an individual receives a subset of test items retrieved from the bank that are optimal for precisely measuring her ability. It has got a number of advantages like quick delivery of results, zero security hassles, no cheating, no fear or tension, no wait, etc. A modest beginning needs to be made without any loss of time.

Conclusion

All circumstances conspire today to exert undue and unnatural emphasis on examinations. They have increased the discontent quotient against examinations. This is an opportune time to get the reforms in place before criticality is reached the level of fretfulness. Reforms should aim at bringing down the discontent level to atleast twenty-five per cent in the beginning so that the system stays in place long enough for continuity before it rises to intolerable levels. Reforms should be introduced with the spirit of tenacity and resilience. This is extremely essential because it involves handling of human beings.

It may be pertinent to mention here that if the aforesaid reforms are introduced in isolation, they may fail to produce desired results. Since they are inter-linked, they need to be implemented concurrently. The changes that the proposed reforms are supposed to bring about may be gradual and imperceptible as it always happens in case of human empowerment but in the long run these will help in improving the quality of school education.

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Educational Possibilities Offered by Certain Advances in Communication Technologies

C. L. ANAND*

Introduction

The present article aims at identifying certain *advances* made in *communication technologies* in recent decades with a view to *improving the quality* of teaching-learning process. It also aims at examining the potential and prospects of emerging technologies for causing more attention to *effective teaching strategies* and for helping teachers to become more professional in their work. Three aspects are first briefly touched upon. These include: the external context of the communication revolution; the internal context of educational institutions; and the context of teaching-learning processes. This is followed by a focus on certain communication technologies and some of the implications of their use.

The Communication Revolution

Just as in the past mankind experienced the *agricultural* and the *industrial resolution* that radically altered the patterns of production and distribution and brought about tremendous changes in the life styles of people, The present is said to be experiencing a *communications revolution* that is affecting the world situation, not the least being the world of learning.

At the centre of that 'revolution' are communication technologies. Some are long established like radio, television and telephones. Others such as satellites, microcomputers and video-recording on tape or video disc are comparatively new. Among the older ones, radio and television broadcasting have been approved, adopted, put to new uses or linked with newer communication technologies. The result is a wider distribution,

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greater accessibility and more clarity. They have also been improved by techniques that enhance recording, text screening, printing and their editing and manipulations of recordings.

There have been spectacular recent developments in telecommunication links that carry signals for telephone, broadcasting and other purposes. The range has been extended to covering even the remotest places and overcoming difficulties of terrains or distances. The rapid evolution of computer technology resulting from the developments in microchip technology has made possible the storing of information at all levels of complexity, and its transmission at speeds beyond imagination.

The new technology offers tremendous possibilities to the educational institutions to use resources for research, management and training. Particularly in teaching there are new media for instruction, new forms of interaction with students and new opportunities for reaching the minds of a larger number of students. But the important questions are: Do teachers employ the new technologies in their teaching and training? How common are classes which use close circuit TV to reach larger audiences or to demonstrate laboratory techniques so that larger numbers can see? However, institutions especially those which are concerned with distance mode are dedicated not only to increasing the access to education but have made use of communication technologies to accomplish their educational objectives. They combined technology with careful pedagogical principles to ensure the effectiveness of their teaching. The big question then is whether or not the new communication technologies would cause changes in the educational processes.

Learning and Teaching

If the new communication technologies are to improve the quality of educational processes, it is necessary to appreciate the significance of the three key terms — 'learning', 'teaching' and 'improvement'. In the present context, *learning* is what students achieve, *teaching* is what the teachers do and *improvement* in teaching can only be demonstrated if there is consequential improvement in learning. Improvement may mean upgradation of quality through effective instructional strategies.

Instructional strategies are often based on different assumptions. Some are deliberately set out to exercise control over the learner: (i) either by trying to exclude outside influences; or (ii) trying to build beyond them; or (iii) by trying to overpower them.

For example, some earlier attempts at programmed learning tried to confine student attention precisely and exclusively to the material to be mastered. Other more sophisticated mastery learning programmes attempt to both discover and start from what the learners' basic knowledge is and to provide 'branch' programmes catering for individual differences. Outside these more mechanistic strategies, other instructional strategies have been based on other assumptions. For example, where students are expected to learn by emulating their instructors, reliance is placed on observational 'learning'. However, the most common and widespread practice is based on a 'cognitive' model of learning. It assumes that students will undergo intellectual (cognitive) development by receiving, processing and structuring information, by then integrating it with previous experiences, by storing it in memory and retrieving as internalized knowledge or as a deliberate act of recall. Thus, no single kind of learning can be expected to account for all the learning and teaching that takes place. It is well to keep in mind what the purpose of instruction is and whether the intent is to produce a knowledge learning outcome, a skill learning outcome, an additional learning outcome or, of course, any combination of them.

Technologies

Technologies *per sey* do not have any inherent capability which make them applicable to all situations, for all students, and for all types of learning. Rather it is the manner in which they are used which determine their usefulness. For example, the essence of education is not in the technologies employed but in what both the instructor and students do with technology to promote the learning process.

In trying to see the effectiveness of any new technology it has commonly been the practice to use normative methodologies based on traditional methods of teaching. Such a methodology simply compares the new technology with traditional teaching to see if it can do the same things better, i.e. is the desired goal of this particular type of learning achieved, for a particular type of course, and for particular group of students and can it be done equally well using another cheaper technology? This suggests that those considering the use of modern technologies should endeavour to define the learning goals for each particular episode, and consider the relative competency of different technologies for meeting them.

Where educational technologies are involved, however, it has become conventional to have regard for four essential elements; (i) hardware, (ii) software, (iii) personnel, and (iv) organisation.

(i) *Hardware:* The hardware concept covers not only the equipment aspect of the technology but also the constraints and opportunities it provides for the student and the instructor to achieve learning. Hardware places severe constraints on the use of modern communication technologies in education. It can dictate the type of learning which will follow, the nature of the programme design, the level of participation and activity of the learner, and organisation needed to enable learning to take place. Good examples of such constraints are found in broadcast versus tape and disk technologies. The ubiquitous audio cassettes have now made it possible to develop a great diversity of programmes.

(ii) *Software:* Software characteristically refers to the programme designed in a form appropriate for use in the relevant hardware. Educationally, the type of software should be related to the level and nature of the learning. For example, content bound software which provides highly structured learning episodes might be highly appropriate for introductory basic courses but inappropriate for advance courses. *Course specific* and *institution specific software* are quite helpful.

(iii) *Personnel:* Equipment is often easy to obtain compared with the expertise required for the design and development of software. There is, therefore, a need for trained personnel to design software for using the technology. These include *instructors* who require expertise in the development of software, the *teacher* who is using the 'technology' and student who need to know how to operate the hardware and software to its best advantage.

(iv) *Organisation:* This refers to the organisation required to integrate the technology into the instructional processes. Such organisation is required at a *macro and micro-level.* At the micro-level there needs to be an organisation which is concerned with delivery systems, maintenance of the hardware, the general service for students, general administration and so on. Even a simple technology such as the audio cassette requires a macro-organisation to record, duplicate and edit. Micro-organisation is concerned with course-specific questions. How will they integrate the technology into their study style? How will the instructor ensure that student understands what to do?

A *recent trend* of new technologies is towards the *promotion of individualised instruction.* The focus in the process of individualisation is the learner and what he or she must do to learn effectively. The rationale for this is very simple: "*each student is the focus of his or her own learning whether it is carried out in a classroom or in a study centre or in one's own home.*"

Individualisation has led to the coining of a further new word, *narrowcast* to contrast with *broadcast.* Narrowcast technologies are those which generally have highly goal-specific content; include material which is essential to the study programme; require a high level of student participation; are arranged to allow student management of the technology; and employ active or interactive technologies.

Some Specific Technologies

Word Processing: *Print,* the conventional and the *oldest technology* of them all, has been *revolutionised by the word processor.* Word processors, used by students, provide scope for the creative manipulation of their written work whatever their field. For institutions, they are important as they provide the means by which they can continuously *upgrade* their *printed materials.* The biggest advantage of the word processor is that it *allows rapid and frequent revision of textual materials.* Well presented, student-oriented study materials can now be easily prepared and new knowledge quickly disseminated.

Radio: Broadcast radio provides a convenient means for transmitting a (verbal) message to a widespread audience. Traditionally used, broadcast radio displays some of the less satisfactory educational features of the broadcast mode, notably that it is transitory. Again, the capability of feedback is lacking and programme material can at best be of a general nature. However, radio can be used with some success to reduce student anxiety by providing at least one-way contact with the teaching institution.

Audio Cassettes: *An audio cassette is to radio what a video cassette is to television.* Such cassettes provide the student with the means of controlling the rate, timing and amount of learning. For the institution and for the instructor they provide a less expensive means of speaking to the student directly; providing precise instructions on how to go about their tasks, listening to the students' response to a series of questions, providing a component in an audio-visual package (with tape slide, tape photo or tape book). They can *provide resource materials such as discussions, interviews, case studies, language exercises and so on.*

Video Cassettes: Though in day-to-day life VCRs are used generally for entertainment purpose, this new development has *the potential for providing instruction* within an institution and in the wider life of information continuing education. However, it will be some time before instructional procedures are developed to take full account of the control the learner can have over the medium and the depth of learning which may be accomplished.

The potential advantage of video cassette lies in the fact that *control of the equipment and the learning process is placed in the hands of the learner* through control over the mechanics of the machine, i.e. stopping, starting, timing, reviewing and previewing, and consequently the capacity to order the sequence of events, controls the rate of learning and facilitates practice sequences.

The potential exists for providing the basis for learning a wide range of motor, intellectual and cognitive and interpersonal skills, as well as affective aspects. These are important aspects which printed materials cannot deal with adequately.

Slow Scan Television (SSTV): SSTV is essentially *a document transfer system which is often associated with telephone conferencing,* or early low-powered satellite systems. As a communication system SSTV has useful applications where: (i) illustrative material generated during a tutorial session needs to be transmitted to students immediately; and (ii) where a mail or postal system is unable to ensure that mailed documents reach students in time.

Micro-computers and Interactive Technologies: The effective use of micro-computers in education will probably depend on three factors: (i) the way in which they are interfaced with other technologies such as telecommunication systems and video tape; (ii) the appropriate design of software; and (iii) the cost structure.

Interactive technologies are those which usually *combine two or more technologies* together to allow the students to interact with the combined resources to facilitate their own learning. With careful planning many technologies can be made to be interactive to a greater or lesser extent. However, the archetype of interactive technology is the video/computer combination. The video may be in the form of video disc or video cassette and a micro-computer.

Conclusion

The new communication technologies have the potential to improve learning and teaching but how they do so depends on recognising the distinction between qualitative and quantitative improvement.

The *quality of learning* can be improved if the quality of teaching used in the *new communication media is superior to that which it replaces.* However, the media themselves have no magical attributes that would automatically ensure better learning.

As *all communication media require pedagogical courseware,* the quality of learning they produce depends very much on the *quality* of pedagogical *coursewares* produced. Whether the medium is radio, television or computers the development of appropriate *courseware requires technical and professional skills.*

Professional training is still, as ever, *a necessary pre-requisite for most would-be teachers.* In so far as teachers may become newly involved in technology-based production they may, alongside, become exposed to new teaching-learning practices.

Instructional Science in Indian Schools[1]

MARMAR MUKHOPADHYAY*

Introduction

Instructional science and technology evolved over a long period of time. Although the history of contemporary empirical research on instructional science is little more than five decades old internationally, and about four decades old in India, the actual history of instructional science can be traced back several thousand years ago particularly in the older civilizations like China, Egypt and India. Indian literature, particularly Vedanta, offers a rich source in science of instruction and education. Such literature (e.g. *Sikshaballi* in *Taittiriopanishad*) has dealt with the nature and goals of education, the content of education, methods and processes of education as well as with outcome and impact of education; the *Hastana Satak* provided a framework of instruction that is now called multi-channel learning (Anzalone, 1994 and Mukhopadhyay, 2001). Compared to the western tradition of empiricism that is based on *Paroksha Gyan* , the older Indian traditions of instruction, particularly in the Gurukula system, were based on perceptual wisdom or *Praryaksha Gyan* . Despite the absence of empiricism, instructional science in the Gurukula system was authentic and scientific.

The modern empirical research, particularly on the structure of intelligence, the processes of cognition, emotion and emotional intelligence, moral development, etc. began in the 1950s and matured with contributions coming in from several schools of psychology. Such contributions led to the development of a framework and contents of instructional science.

The primary goal of instructional science and technology has been optimizing the human learning processes, and creating a

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[1] I have benefited from the comments by Prof. O.S. Dewel, Prof. R. Govinda, Dr M.P. Chhaya and Dr Madhu Parhar on the draft of this paper. I express my sincere gratitude to all of them.

'learning being' in each individual rather than the 'learned one'. By implication, the goal of instructional science is to develop in an individual the ability to learn on a continuing basis rather than being learned once and for all.

Instructional science and technology comprises several elements. An honest examination of instructional science and technology in Indian schools entails looking at each element in their symbiotic relationships with one another and as applied in school situations. By implications, we need to deal with the systemic as well as component analysis of instructional science and technology and then search for their presence in and contribution to the making of Indian schools.

Indian Schools

The Indian School system comprises more than 7,50,000 primary schools, and 1,17,000 secondary and senior secondary schools. Even if we restrict ourselves to the secondary and senior secondary levels, there are schools and schools. The estimated number of English medium fee-charging institutions are about 5,000. The Union Government sponsored institutions of comparatively higher quality, namely, the Kendriya Vidyalayas, Navodaya Vidyalayas, Sainik Schools, etc, are more than a thousand. In the state sector, there are government schools and government-aided schools; though apparently, there are differences between them, for all practical purposes of instruction and related quality, the government and government-aided schools are one and the same. Besides funding of both categories of schools by the government, both are guided by similar, rather same, set of rules and regulations for recruitment of staff, academic infrastructures like laboratories, libraries, etc.; needless to mention the common curriculum, syllabi, textbooks and examinations.

Since the fundamental purpose of application of instructional science in schools is improvement and management of quality in education, it is useful to examine Indian schools from another quality management paradigm offered by Murgatroyd and Morgan (1993). The four generic categories of schools are according to the variations in access and service. Access can be either open or niche — restricted to particular category of students, e.g., merit, gender, religious beliefs, etc. Service can be either basic or common, or enhanced, e.g., special emphasis

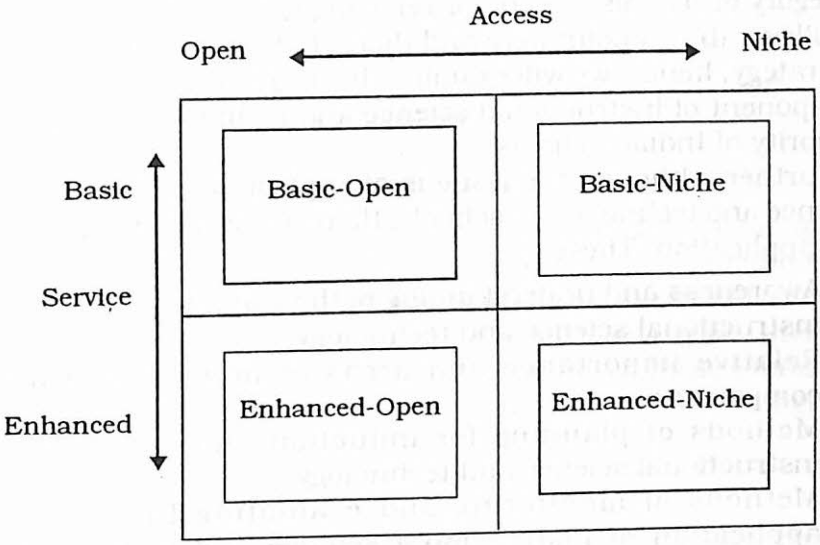

Figure 1 : Categories of Schools

on Information Technology (IT) or sports and games or cultural activities, or science education. By using service and access on two axes, the paradigm offers a matrix (Figure 1).

The Basic-Open is the most common form of Indian schools. Second largest category is the Basic-Niche. Since majority of the schools offers only Basic service, the number of schools in Enhanced Service category is far too few. However, it is necessary to draw distinction among schools within the same category. For example, my village school – Udang Girls High School and St. Joseph's Convent in Bhopal – are both girls' schools and are in the category of Basic-Niche; however, St. Joseph's Convent admit students only on merit whereas admission to the village schools is open to every girl desirous of education. In another case, Madhyamgram High School that has lifted Subroto Cup several times belongs to Enhanced-Open whereas a sports school belongs to Enhanced-Niche category.

From the angle of instructional science and quality of schooling, Basic-Niche Category of schools is well-advanced compared to Basic-Open Category. Since, enhanced service category of schools is very few, so is the Niche category, our concern is far more focussed on the basic-open category of schools. Since the later category comprises more than 1,10,000 or more than 94 per cent of the schools, we may as well restrict our analysis to this category of schools, except for referring to other types of schools for illustrating a point here and there that may be necessary. As a strategy, hence, we will examine the degree of adoption of each component of instructional science and technology in the large majority of Indian schools.

Further, although the issue is of application of instructional science and technology in schools, there are several stages before the application. These are:

- Awareness and understanding of the various components of instructional science and technology,
- Relative importance and areas of impacts of various components,
- Methods of planning for induction and application of instructional science and technology,
- Methods of monitoring and evaluating the impact of application of instructional science and technology on education, and hence on the growth and development of students.

We need to stop over and examine the presence and adoption of instructional science and technology in its various stages in the schools.

Components of Instructional Science

There are several words and phraseologies associated with the word 'Instruction'. The most common ones are 'Instructional Science', 'Instructional Technology', and 'Instructional Design'. In my assessment, Instructional Science provides the theoretical construct to the process of instruction. The meaning of' Instructional Design' is indicated by the word Design itself. Design has been claimed as a science by itself (Van Paten, 1989); instructional design is construed as part of that overall 'design science'. The design scientists claim that a product is as good as the design and implementation of the design. Thus, in layman's formulation, it may also mean the plan of action with a purpose; and Instructional Technology is the applied aspect of Instructional Science based on Instructional Design. In order to carry out the component analysis, it is difficult to separate out these three into exclusive domains. Hence, I would imply Instructional Science as inclusive of Instructional Design and Instructional Technology. Accordingly, Instructional Science comprises following components:

- Goals of Instruction;
- Curriculum and Contents;
- Instructional Material;
- Instructional Methods and Media;
- Assessment of Instruction; and
- Instructional Programme Evaluation.

It should be evident that instructional science is far more holistic than it is construed to be, and restricted to methods of classroom instruction. The elements of the instructional science are not independent of each other. As mentioned earlier, there is an intricate and symbiotic relationship among all these elements. Often these are indicated in the form of a systems diagram (Figure 2).

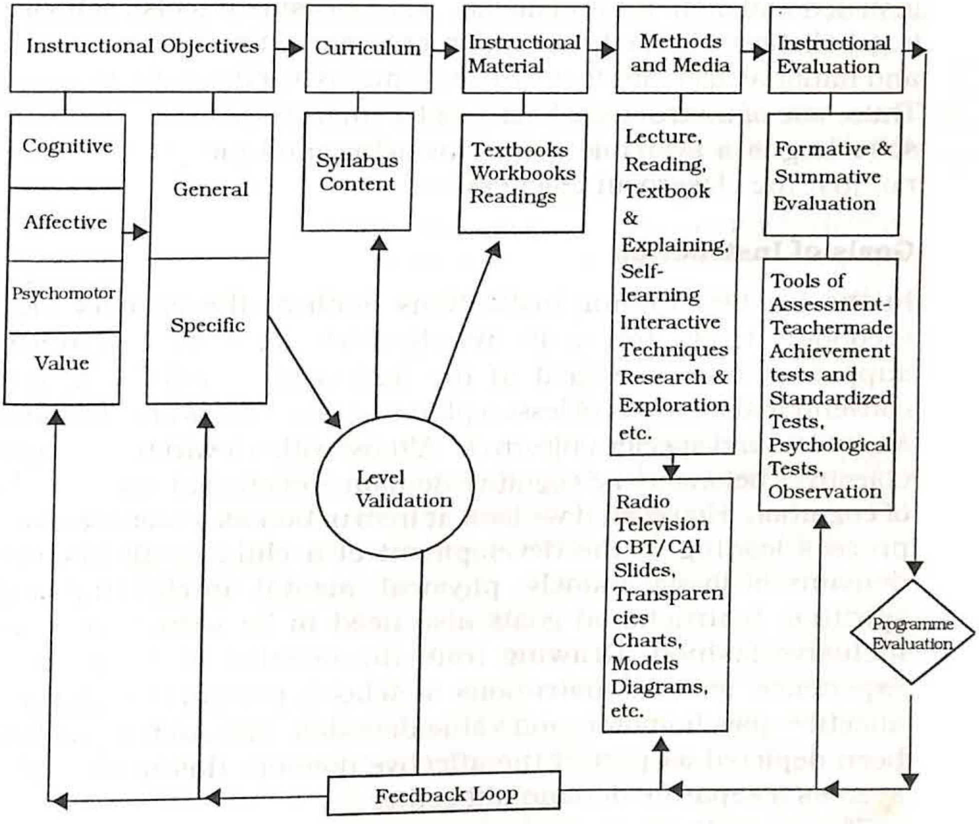
Instructional Objectives
Curriculum
Instructional Material
Methods and Media
Instructional Evaluation
Cognitive
Affective
Psychomotor
Value
General
Specific
Syllabus Content
Textbooks Workbooks Readings
Lecture, Reading, Textbook & Explaining, Self-learning Interactive Techniques Research & Exploration etc.
Formative & Summative Evaluation
Tools of Assessment-Teachermade Achievement tests and Standardized Tests, Psychological Tests, Observation
Radio Television CBT/CAI Slides, Transparencies Charts, Models Diagrams, etc.
Level Validation
Programme Evaluation
Feedback Loop

Figure 2 : Framework for Instructional Science

The diagram depicts that each stage of the design is informed by the previous one, e.g. the decisions on curriculum and content are based upon the definition of instructional goals, as much as the methods and media of instruction are informed by the instructional goals and the curriculum. Besides these internal relationships among the elements, instructional science demands a systemic approach to education, and a mechanism for continuous improvement and enhanced effectiveness. This is indicated by the elements of evaluation and feedback built into the systems design.

Having plotted the various components of the instructional science in a framework of interrelatedness, let us now examine their presence in schools and impact on education. We must, however, recognize that in implementing or making use of instructional science there are specific roles of teachers (e.g. instructional methods and media, and assessment tools), schools (e.g. holistic goals of education, programme evaluation) and state and national agencies (e.g. curriculum, instructional materials). Thus, use of instructional science for improvement of quality of schooling is a systemic game: involving multiple players, and not just the classroom teachers.

Goals of Instruction

In the teacher training institutions, both at the primary and secondary levels, the goals and objectives for every lesson are supposed to be specified in the lesson plan. Following the conventional methods of lesson planning, such goals are specified as general and specific objectives. Almost without variation, these objectives belong to the cognitive domain and often at lower levels of cognition. However, if we look at instruction as a more holistic process leading to the development of a child in all his/her domains of living, namely, physical, mental, intellectual and spiritual, instructional goals also need to be seen in a more inclusive fashion. Drawing from the existing literature and experience, goals of instrutions in schools pertain to cognitive, affective, psychomotor, and value domains. Although value has been depicted as part of the affective domain, this needs to be seen as a separate domain altogether.

The objectives in each domain belong to a multi-layer taxonomy. The taxonomies of cognitive, affective, and psychomotor and value domains are given in Figure 3.

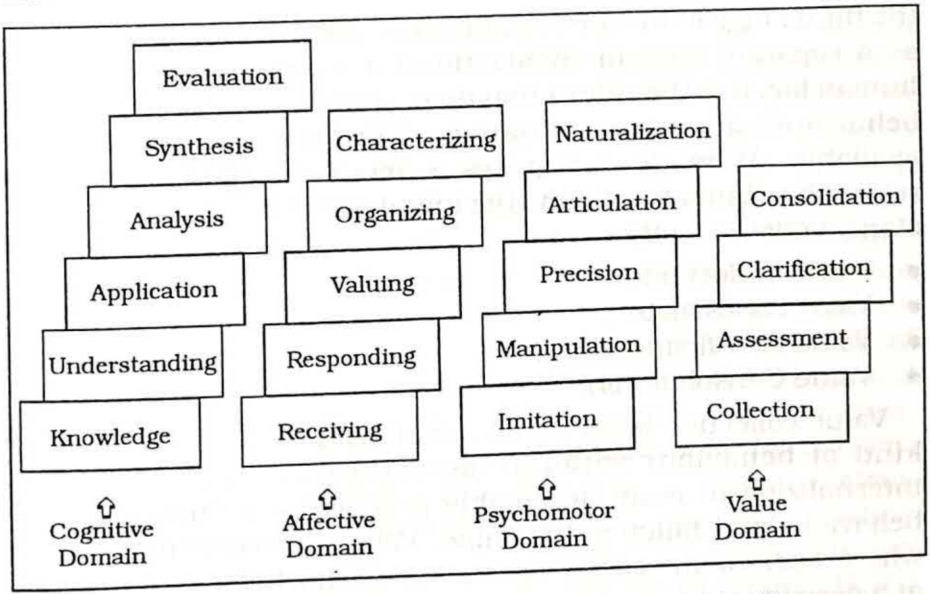

Figure 3: Taxonomies of Educational Objectives

Source : for Cognitive, Affective and Psychomotor Domains – Srivastava, H.S. and Shourie, J.P. Instructional Objectives of School Subjects, New Delhi : NCERT, 1989.

Of the four domains, the taxonomies in the cognitive, affective and psychomotor domains are standardized. Further, there are differential professional inputs in various domains. Though Bloom's taxonomy of educational objectives is mentioned more often in India there are several other taxonomies in the cognitive domain. Reigeluth and Moore (1999) present a comprehensive overview of such taxonomies of learning in the cognitive domain by Bloom, Gagne, Ausubel, Anderson, and Merrill. Merrill (1994 and 1999) offers extensive professional input on instructional design. There are, however, controversies about the degree to which the rigid frameworks of the taxonomies are applicable. Bloom himself changed his position in later years. The landmark statement that we know very little how children learn by the US Web Commission of 2000 also raises serious questions about the validity of the taxonomies. Children brought up in a multi-channel learning environment bring a whole range of experiences, values and backgrounds into the school. In the words of Delors' Commission, 'the world comes to the classroom' (UNESCO, 1996).

The taxonomy in the value domain is yet at a hypothetical level (Mukhopadhyay, 2001). Though 'valuing' finds a place as the third stage in the affective domain, value deserves treatment as a separate domain considering the critical role it plays in human life. It is the values that determine the choice of a human behaviour[1] in a given situation where multiple choices are available. Although it requires a detailed consideration and research to build taxonomy, the initial assessment offers a four-stage model, namely,

- Value Collection,
- Value Assessment,
- Value Clarification, and
- Value Consolidation.

Value collection is an initial act of picking up of a particular kind of behaviour without associating any judgment and internalizing it as an acceptable practice — a child observes behaviour and imitates the same. Value assessment is largely where a person internally assesses a specific behaviour to arrive at a decision on a 'right-wrong continuum'. Value clarification is the process where one set of values is confronted with an alternative set. Or, a particular kind of a behavioural choice is cross-checked with alternative behaviours. This often happens when a child moves out of known homogeneous environment of home and immediate neighbourhood to schools where children from a variety of homes bring along with them a whole range of values and overt behavioural choices. This may result into value clarification through value confusion, or value transfer, or value shift. Value consolidation is the process whereby a set of values get consolidated because of repeated behaviour supported by positive reinforcement.

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[1] The values are the basis of an individual's behavioural decisions. Let us take a case to illustrate the point. A boy notices some money falling on the ground from a person walking ahead of him. There are several ways, the boy can respond.

(a) He can pick up the money and keept it in his pocket.
(b) He ignores and goes on to his job.
(c) He shouts at the gentleman ahead of him and calls his attention.
(d) He picks up the money and runs to the gentleman and gives it to him.

These are four sampled behaviours. There can be several others. What makes a child to choose one out of the several behaviours options? That what makes him to choose is the value. In other words, if stealing is not a contra-value, he will pick up the coin and keep it in his pocket. On the contrary, if helping others is the value, the child will pick up the money and run to the person and give it to him.

Against this backdrop, if we now look at the schools, it would be evident that goals of instruction as offered by the instructional science is missing from the cognitive horizon of majority of Indian schools. If at all, the cognizance of cognitive goals are restricted to knowledge and understanding, and partially application. Higher levels of cognition are conspicuous by their absence. Though there are physical activities like games and sports, the consciousness of the psychomotor goals or relation between psychic and motor attributes remain largely unknown and unexplored in Indian schools. Most serious is the absence of education in the affective domain — expression of feelings and development of emotional maturity and emotional intelligence. Value education and inculcation has traditionally been taken for granted. The exceptions are the institutions run by religious and socio-religious societies like DAV Schools, Ramakrishna Mission Schools, Bharatiya Vidya Bhavan, Chinmoy Mission Schools, Krishnamoorthy Foundation Institutions, Guru Harkrishan Schools, Islamic Institutions like Madrasas, Christian Missionary Schools, etc, where education in human values is a deliberate and planned process. Indeed, in Indian schools, programmes for value inculcation are one of the few 'enhanced services'. Of late, the realization has dawned on the need of deliberate process in educating in human values. The recently published *National Curriculum Framework for School Education* deliberates on the issue of education in human values (NCERT, 2000).

The knowledge of goals of learning (Knowles, 1984) is being increasingly recognized as a powerful tool of learning itself particularly for the grown up learners. The absence of perception, conscious efforts to define goals, and planning for their translation that characterize Indian schools, makes learning relatively less efficient.

Curriculum and Content

Curriculum, syllabus and contents can be seen as the three layers of the sum and substance of schooling. Curriculum lays down the pathways for development of the child. Syllabus provides the outline and posts, mileposts in the curricular pathway. Contents are the details of the syllabus — in other words, curriculum unbundled two-steps is contents. The Curriculum framework is developed at the national level. In absence of well-defined national standards in the form of skills and competencies, the curricular framework defines the pathway, rather loosely. This framework is used to develop syllabus for each grade and for each subject. The practice is fraught with several problems. Being the national framework, it is highly centralized; such a framework has obvious limits to accommodate the wide diversity of the country. More importantly, such a framework fails to accommodate 'client need' — a child in the desert areas and seashores, or in urban metropolis like Delhi or Mumbai and remote tribal areas in Madhya Pradesh and in Nicobar Islands are offered the same or similar contents to learn.

Although there is a sincere effort and articulation in the revised *Curriculum Framework* (NCERT, 2000) to accommodate a child's physical, mental, intellectual and spiritual developmental needs, it is indeed difficult to make a confident claim that the curricular framework is informed by the taxonomies of objectives in the different domains, mentioned above. Being centralized, schools perceive very little role in curricular planning. For large majority of schools, curriculum as a pathway for children's development in all the domains of cognition, affection, psychomotor and values remains unregistered. What is most predominant in the school ethos and environment is the syllabus and completion of the syllabus implying the teacher dealing with each aspect of the content in the class.

Within this common canvas, however, there are exceptions and there are meaningful practices in curriculum planning. For example, it is a common practice with large number of private fee charging institutions to develop annual curricular plan. Such plans not only provide a plan of action for covering the syllabus depicting sequence and relative emphasis, but also indicate areas of content enrichment, supplementation, etc. All the same, should we consider curriculum in a larger sense, where the school is to define the pathway for development of a child as an articulated 'vision' is often missing.

Instructional Material

According to the developments in instructional science, instructional material can take several forms, namely, print, audio and video, electronic mode of CD-ROM, online web-based material, etc. Besides and beyond these various categories of materials, there are some fundamental principles and practices that put these materials on a continuum of less scientific to more scientific that impact learning effectiveness. The large base of international and Indian research indicate that programmed, structured, semi-programmed and interactive instructional material contribute to better learning. The audio, video, computer-based instructional materials are without exception structured. There have been large numbers of research and experiments with structured print material that indicate the supremacy of the structured print material over the unstructured print materials like the textbooks. The components of a typical structured print material are:

- Introduction
- Objectives
- Content
- Concept I, explanation, illustration, derivations
- In text Questions:
    - Concept II, explanation, illustration, derivations
    - In text Questions
    - Concept III, explanation, illustration, derivations
    - In text Question
- So on
- Summary
- Unit End Questions
- References and Suggested Reading

The introduction, statement of objectives, presentation of matter in small bits with intermittent mechanism for checking the learning through text questions are psychologically more sound (Parhar, 1999) and have been found more effective than conventional textbooks.

In schools, most common and almost the only form of instructional material are textbooks. Textbooks are developed in the conventional format, miles away from whatever instructional science has to contribute on this subject. There are interesting comparisons of textbooks and structured instructional materials for their scientific basis. At the school level, the National Open School follows structured instructional material in the print form whereas, the NCERT offers conventional textbooks; later is used either as they are or with minor adaptation by large majority of State Textbook Bureaus. In this area, schools have very little role since schools transact textbooks prescribed by the states. Reason for non-use of instructional science in such a critical area demands examination at the national and state levels where textbooks are designed.

There is a school of thought that holds that textbooks cannot be similar to that of the print material used in open and distance education. As long as cost of production can be managed, it is important to structure the material with assignments, in-text questions, illustrations, etc. particularly for the students of the Open-Basic category of schools where academic support at home is minimal due to poor educational status of the parents.

As mentioned earlier that 'curriculum' as a concept is missing in schools; it is seen as equal to syllabus and contents. In real terms, it is the textbooks that represent syllabus and curriculum. This is equally absent from the cognitive horizons of textbook writers at the national and state levels. The development of scientific print material requires understanding, willingness and application of instructional science along with the knowledge and expertise in subject matter. The curriculum committees, rather textbook writing committees, comprise only subject specialists. Such committees do not have specialists in instructional design and/ or instructional science. It is not unusual to come across contempt for instructional science among the subject experts who constitute the curriculum and textbook committees. In contrast, in National Open School (NOS) that also produces print material at the school level, the in-house subject specialists have been trained in instructional science; they not only form part of the courseware authoring team but also act as coordinators of such committees. In NOS, materials are reviewed from the angle of instructional science. This unfortunately does not happen in case of textbooks prepared and produced by the national and state agencies. Thus, input of instructional science in this critical area of instruction is largely absent.

Whatever little application of instructional science in material development can be found, it is restricted to secondary education. Very little has been done at the national and state levels in the design and development of instructional material for primary classes. It is under DPEP that certain states have attempted producing different types of innovative instructional material informed by the tenets of instructional design.

One important parameter of application of instructional science is the attractiveness and sustainability of attention of students. This depends equally upon design and production of instructional material. The textbooks produced both at the national and state levels are devoid of any such consideration. As such, the instructional materials are dull and non-attractive. This has also been pointed out in the report of the Verma Commission (GOI, 1999).

Methods and Media

In the overall context of instructional systems design, methods and media hold a significant place for more than one reason. Firstly, achievement of number of learning goals, particularly in the non-cognitive domains, is dependent upon the methods and media. The affective goals, value inculcation, and even some of the cognitive goals like learning to learn, etc. are determined by the methods of instruction. Secondly, in instruction, method and media are integrally related — sometimes 'message is the medium' and at some other occasion,'media is the message'. Thirdly, no single method of instruction contributes to all domains of learning, or to all levels of the same domain.

There is a need to choose various methods and media to achieve different instructional goals. The fourth is the difference in learning styles — among children — one child to another, one group of children to another. The right choice and variation in methods and media contribute to optimal learning of various groups of children and each child within a group of learners. Finally, children live and learn in a multi-channel learning environment. They come no more to schools with a *tabula rasa*; they bring with them even at the early grades hosts of imprints of information and knowledge, intelligence and emotions, attitudes and values, and widely varying physical and spiritual attributes.

The instructional science and technology offers us a wide range of methods like leading and paraphrasing of textbooks, lecture, structured presentation, interactive instruction, research and exploration, self-study, group paced learning, cooperative learning, project-based, problem-solving, etc, and media like small and big electronic media, interactive media like CD-ROM and Web-based Instruction presentation tools like slides, transparencies, charts, models, etc. The instructional science professes adoption of a flexible multi-channel learning system making use of the wide range of methods and media that can optimally contribute to the learning of every child and thereby optimize human learning. In real terms, this would imply, the freedom and scope of a learner to draw out his/her own road map to learning through differentiated instructional design

(Mukhopadhyay and Parhar, 2001).

Against the backdrop of breathtaking developments in instructional methods and media, the happenings in schools are not very encouraging. Wide range of studies on teacher classroom behaviour indicate that exceptions apart, the chief methodology adopted in classroom transaction is lecture or direct methods of instruction. In reality, lectures are also too few; most common classroom scene is characterized by a teacher sitting on a chair reading out from the prescribed textbook, occasionally paraphrasing and interpreting certain paragraphs from the textbook. More often than not, teacher does not enter the classroom with the textbook; instead a copy is sought from one of the students who are asked to share with the student next to him/her. Thus, despite the existence of a large repertoire of instructional methodologies, large majority of teachers restrict themselves to reading textbooks and lecturing. Indeed, there are honourable exceptions. Some of the progressive institutions use a whole range of instructional techniques like projects, cooperative learning, video-aided education and the like.

Importantly, unlike curriculum and contents of education, adoption of variety of methods of instruction is within the jurisdiction of the classroom teacher; he/she has all the freedom. It, however, does not happen. As a result, the instructional method contributes only to the lowest level of cognition. Some teachers, though competent, lack motivation and willingness to adopt multiple methods of instruction; some lack both competence and commitment.

The scenario on use of media is equally disappointing. The series of micro-research studies indicate the effectiveness of use of animated media in school education. However, not more than eight per cent of colour television sets provided to schools are used (Mukhopadhyay and Sinha, 1993), and wherever TV is used, there is no evidence of impact of educational television programmes on learning (Parhar, 1993). Except chalkboard, use of other aids is nearly absent in large majority of Indian classrooms. The access to interactive electronic media is almost non-existent except in a few urban English medium schools. The adoption of group-based interactive instructional methods, self-instructional approaches, locally developed aids are within the reach of Indian school teachers. Yet, classrooms are visited by conventional textbook reading and lectures.

The schools are not isolated institutions; they live within an overall ambience of education and educational network. Large majority of teachers learn from and imitate their own teachers who have been their role models. The only opportunity of new input and examining the relevance of the old methodologies are provided by the initial and recurrent teacher training programmes. Unfortunately, things are not very different there either. The school classrooms are reasonably honest echo of classrooms in teacher training institutions. For example, despite the visible presence of multi-channel learning environment, the teacher training classrooms are filled with conventional lectures; the practice lessons in teacher training programmes are still on 'direct teaching'. The adoption of conventional methods and media in the teacher training institution reinforces the conventionality among the school teachers. The onus is on the teacher training institutions; they must show the way.

Assessment of Instruction

As indicated in Figure 2, there are two dimensions in the assessment from the angle of instructional science — the formative versus summative assessment, and the various tools and techniques of assessment. There is, however, series of other implications for assessment from the standpoint of instructional science. The agenda of assessment is integrally related to and informed by the instructional goals. Similarly, the choice of tools of assessment is also dictated by the content and its level as well as the methods and the media.

Whereas conventional education trusts summative evaluation and exit examination, the instructional science professes the formative evaluation. The formative evaluation provides the milestones for checking the progress on one hand and also the opportunity for mid-course corrections. Formative evaluation placed on sound footing is competent to challenge the role and relevance of summative evaluation. The recommendation of removal of public examination till Class X is primarily based on scientific principle of the formative evaluation.

The second element is the tools of assessment. The conventional assessment is based on essay type written tests. There are wide variety of testing mechanisms like different types of test items for written tests, interviews or oral tests, observation, peer evaluation, performance tests, journals, research and explorations, achievement and psychological tests, standardized versus teacher-made tests, pre-scheduled tests versus walk-in-tests, etc. In view of the multiplicity of instructional goals, it is necessary to adopt a host of testing techniques.

Under the instruction of the State Boards of Education and the Department of Education, schools in many states adopt a wide range of assessment techniques like observation of personal qualities like leadership and cooperation, project reports (subjects), pracitcals (science and SUPW), both essay and objective type tests (for subjects), oral tests (for subjects), etc. The schools also maintain cumulative record cards that depict the growth and development of the child in various domains of human learning.

Thus, evaluation and assessment is one area where presence of instructional science is visible. Although the presence of a wide range of testing techniques as recommended by the instructional science, their quality is not beyond question. Many teachers, even the well-meaning ones express difficulty in observing and recording leadership and such other personal qualities, as much as in developing good questions or skills in oral testing. Training of teachers is necessary in making improved use of instructional science for modernizing assessment.

Instructional Programme Evaluation

Instructional programme evaluation is an important component of instructional systems design. It provides feedback so that refinement can be carried out in the statement of instructional goals, deciding the curriculum, and contents including the level of contents, instructional material, methods and media, and techniques of assessment. There are several approaches in programme evaluation. Students, teachers, principal and the parents can evaluate the programmes. The programmes can be evaluated on the basis of data collected through structured schedules, interviews, discussions, analysis of results, etc. It is important to note that primary purpose of programme evaluation is to carry out a SWOS (Strength, Weaknesses, Opportunities and Strengths) analysis to derive information for enhancement of the programme quality. The instructional programmes can be evaluated after specific period of time and at the end of the year. Although formal and/or informal programme review and assessments are common in progressive private schools and quality schools in the state sector, this is not common with majority of the schools.

The issue of instructional programme evaluation can also be examined from a quality management paradigm, primarily for quality assurance. There is a vast amount of professional literature on quality assurance. Such professional literature offers several methods of quality assurance, namely, benchmarking, ISO 9001 series and Total Quality Management in Education (Mukhopadhyay, 2001). The benchmarking offers the indicators of quality and also the acceptable level of performance. This can be school-based varying from one school to another. The ISO 9001 series is more generic and international offering both product as well as process indicators. Total Quality Management offers a comprehensive institutional mechanism for continuous quality improvement.

Conclusion

From the analysis of the contemporary scenario, it becomes evident that instructional science and Indian schooling runs parallel without finding a means to meet. The problem is systemic and all pervasive. When it comes to teachers they respond differentially to the scientific aspects of instruction and student assessment though they are equally free to adopt scientific practices. Though all-round development of students is the catch word in education, the schools rarely, if ever, articulate holistic development on the basis of various domains of learning. Exceptions apart, majority of schools do not take to curricular and instructional planning. At the policy level, too there are missing elements of science, e.g. in curriculum development, preparation and production of textbooks, etc.

The instructional science is an ever growing science. It has simultaneously persuaded its exploration on how humans learn and tuning the instructional strategies to optimize human learning. Secondary schools, by and large, have been the main focus and laboratory for such research and development, though there are experiments and research in primary and higher education. The current status of instructional science offers a tremendous potential for optimizing human learning. Indian school, however, has its face turned away from the fruits of instructional science largely due to unfamiliarity of its potential contribution to human learning.

In the absence of autonomy and school-based management framework in India, Indian schools' refusal to or poor response to instructional science cannot be separated out from the unfamiliarity, apathy and at times weak competence in instructional science that characterize the national and state agencies, and the resource institutions like universities and teacher training institutions. In order to ensure adequate application of instructional science in Indian schools, and to offer a better deal to Indian children, the national and state agencies, academic institutions that are charged with the responsibility of preparing teachers need to be geared themselves up.

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Issues in School Management

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The New Thrust

Never before school management had assumed such a great importance as it has today, not only in India, but all over the world. It is being increasingly realized that effective school management can significantly contribute to higher quality of education and'maximize the returns from the various inputs that are provided in school education — be they financial, material or human inputs.

Improving the quality of schools remains high on the agenda of governments all over the world. Much research has demonstrated that the quality of education depends primarily on the way schools are managed, more than on the abundance of available resources (Anton de Grauwe, IIEP, 2000). This brings into focus the role of the state, on the one hand, in adopting new policies and interventional strategies for school management, and the role of schools themselves, on the other, in adopting non-traditional management skills which may strongly influence the quality of teaching-learning as well as the realization of the institutional objectives.

Title Concern

During last few decades, India has made phenomenal progress in the matter of expansion of school education. Yet, it is disappointing that the goal of providing useful and relevant elementary education of satisfactory quality for all is still elusive. At the primary stage, the net enrolment rate is nearly 70% but at the upper primary level it is in the range of 40-50% only (MHRD, Government of India, 2000). The quality of secondary and senior secondary education is quite low. On an average, more than 50% children who appear at secondary and senior secondary examinations of different State Boards fail. Most of those who manage to pass, do not secure high scores.

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Teacher motivation is abysmally low, accompanied by teacher absenteeism and poor supervision, particularly in rural areas. There is a general feeling that schools lack accountability and there is huge wastage of available resources. There is also a feeling that the system of deployment of teachers is irrational whertby urban and semi-urban schools have excess teachers while schools in remote areas remain without sufficient teachers. School facilities are neither adequate nor properly maintained and that the community has a limited role in maintaining such facilities. There is a sense of helplessness with regard to improving the school management (MHRD, 2000).

Role of the State

In the face of the above situation, the question arises as to what is the role of the state in puting the school management on a proper track. Should it continue with the existing policies of school management which are highly centralized, traditional, ill-conceived and unsuitable to the present needs of India? If all children have to complete five years of schooling by 2007 and eight years by 2010, and if all gender and social gaps have to be bridged and universal retention to be achieved by 2010, as envisaged in the recent *Sarva Shiksha Abhiyan* launched by the Ministry of Human Resource Development, there has to be a pronounced change in the policies and strategies of school management.

The SSA document does recognize the need to review the existing legal and administrative frameworks and introduce effective decision-making levels. It also states that improved information systems and use of Information Technology for improved management of schools are important interventions that have to be taken up. But sooner these realizations are translated into practice, the better it would be for improving school management. Unfortunately, the past experience has been that such ideas remain on paper and seldom get implemented.

Decentralization of School Management

The *National Policy on Education* (NPE), 1986, clearly enunciated the two following guiding considerations while expressing its determination to overhaul the system of management of education:

(a) Decentralization and creation of spirit of autonomy for educational institutions;
(b) Giving pre-eminence to people's involvement, including association of non-governmental agencies and voluntary effort.

Not much seems to have been done on both the above aspects. In reality, the management structure has become rather more centralized over the years by creation of separate Directorates for elementary and secondary education in most states. There is hardly any worthwhile evidence of decentralization or devolution of authority to lower levels for purposes of effective management of schools.

The Panchayati Raj institutions have come up in most states as part of decentralization process but as noted by the SSA document 'the Panchayati Raj framework has often come in the way of community mobilization'. There is a strong opposition in certain quarters to handing over management of primary and middle schools to Panchayati Raj Institutions. As reported in *The Hindustan Times* (Delhi) dated 5.3.2001, the latest case in point is that of Haryana where the proposal to give schools to these institutions has received stiff opposition. The move has caused consternation among teachers and government employees in general. *Dharnas* and demonstrations are being organized. It is alleged that transfer of schools to these institutions will result in politicization of education. Since they are ridden with political rivalries, there would be unnecessary political interference in the functioning of schools. It is also alleged that the administration of education would step out of the hands of educational experts into the " raw hands of half-educated or ill-educated people." It would create serious administrative problems vis-a-vis the recruitment of teachers, their postings and transfers.

The District Primary Education Programme (DPEP) launched in 1994-95, has laid stress on decentralized planning and management at district level in some selected districts but the question of effective management of schools does not seem to have received due attention. It is only now that the new programme of *Sarva Shiksha Abhiyan* envisages effective decentralization including community mobilization and more particularly the institutional capacity building. The SSA also proposes establishment of Block and Cluster Resource Centres.

Actually, with the huge expansion of elementary education and setting up schools in villages and habitations many of which are not easily accessible, it is difficult for the District Education Officer and even Block Education Officer to properly supervise the schools in their charge. Moreover, their multifarious duties leave little time for them to visit the schools and guide them in their management. Alternative strategies of school management and supervision, therefore, become inevitable in today's context. These should include:

- establishment of school complexes;
- involvement of local community in school management;
- autonomy to selected schools in school management; and
- encouraging NGOs and private initiative in school management.

School Complexes

School complexes were conceived by the Education Commission way back in 1964-66 to break the benumbing isolation under which each school functioned, to enable a small group of schools working in neighbourhood to make a cooperative effort to improve standards, and to enable the Department of Education to devolve authority for efficient management of schools at the local level.

Although the *National Policy on Education*, 1986 and the *Programme of Action*, 1992 accepted the institution of school complexes as the lowest unit for school management and planning, the scheme has not picked up except in a few states like Karnataka, Andhra Pradesh and Goa where it has been given an official push recently.

School complexes are essentially a means to streamline administration and supervision of schools, reduce absenteeism among teachers, ensure greater accountability of people and institutions, enhance involvement of local community and mobilize community support. They are effective instruments for raising quality of school education and making the maximum use of available resources. They can also serve as mechanism for inspection of schools within the complex as envisaged in the NPE. There is a strong need to make them work (Singhal,2001).

The recent *National Curriculum Framework for School Education* (NCERT, 2000) has supported the need for establishment of school complexes in the country and recommended that they be activated and strengthened.

Role of Local Community in School Management

The *Sarva Shiksha Abhiyan* document acknowledges in unambiguous terms that there is no substitute to effective community mobilization. " Building capacities in communities to effectively manage schools will be central to all SSA activities", declares the document.

Whether the local community should monitor the functioning of school is a matter which has lately received a mixed response. Whereas some people strongly favour monitoring of the school activities by the local community with a view to ensure its accountability and check teacher absenteeism and school's performance, there is another section of people who strongly oppose the role of the community in monitoring the school as it is feared that it will imply interference in the day-to-day administration of the school which is the responsibility of the school head. It is alleged that the community should not be allowed to take over administration of the school which is the domain of the department of education. It may politicize the schools and demoralise the administration. In any case, the local community does not have the required expertise of administering and monitoring the schools and, therefore, the whole attempt may be deterimental and counter-productive.

Actually, there are both kinds of experiments. In several cases, involvement of community in school governance has yielded remarkable results. The community, in such cases, has made significant contribution to improvement of enrolment and retention of students. It has provided immense support to the school in cash and kind, improved school climate and enhanced teacher motivation. What is required is a close partnership between the school and the local community in achieving the purposes and targets of the school. What is necessary is a spirit of togetherness and a sense of identity of the local community with the school. Once the community thinks that it is their own school for the benefit of their own children, the school management will receive a new boost and the tasks of the school will become simpler and easier.

In order to mobilize the community to play a positive role in effective school management, it would be essential to orient the community and build its capacities to come up to the task which is quite challenging. At no stage should the local community try to meddle with the day-to-day administration of the school which should be left to the head of the school. It is the constant counselling, support and overall planning and taking corrective measures, wherever necessary, which is going to pay dividends.

Innovative Projects

With the enforcement of elementary education as a fundamental right in India, responsibility of the state and the local community assumes great significance. There have recently been several innovative experiments in other countries in the matter of involvement of local community in school management. In Zambia, the SHAPE (Self Help Action Plan for Education) project has brought about considerable change in the quality of schools. The project has resulted in greater accountability of schools, improvement in conditions of schools and enhancement in motivation and professional competence of teachers (Unesco/Unicef, 1996).

In Upper Egypt, under the Community Schools Project, with the help of the elders in the local community, there is vital improvement in the quality of school education. The emphasis is on problem-solving and active learning. Teaching-learning is linked with local environment (Unesco, 1996).

In India too, there have been a number of innovative projects in different states where community mobilization has been very fruitful in making school governance more effective. Maharashtra's PROPEL (Promoting Primary and Elementary Education) programme under the auspices of the Indian Institute of Education, Pune (an NGO) is reported to have made a tremendous impact on formal schools.

In Rajasthan, under *Lokjumbish*, there is a massive community mobilization and involvement. Over 25 NGOs have been playing an active role in the programme and they function as a link between villages and government, provide training to teachers and instructors and practical life skills to students (Unesco, Innov. Database, 1995).

Privatization of Schools

Privatization or no privatization has become a core issue today in any discussion on school management. The government has accepted partial privatization as a policy not only in business and industry but also in education. It is believed, and the same is substantiated by some studies, that privatization by and large can lead to increase in the efficiency of the system and enhance accountability of institutions. The governmental management of institutions, on the other hand, it is alleged, is highly bureaucratized, non-productive and inefficient. It does not change easily with the changing needs and therefore remains traditional and static.

In business and industry, there is sharp increase in privatization activity all over the world. There are major world-wide sales of state-owned enterprises including in India. The government equity in Public Sector Undertakings in our country is being substantially reduced and more and more private share in equity is being recognized as it has been felt that most PSUs have not been able to sustain themselves under government control.

In education too, there is demand for more and more privatisation though those in employment of government schools always resist any attempt at privatization because the latter implies greater accountability, higher effrciency and better results. The governmental management has almost become synonymous with poor quality of education, inefficiency in administration and non-responsiveness to the needs of children.

Privatization in school governance has generally been advocated for one or more of the following reasons (Mark Bray, 1996) :

- To reduce the burden on government expenditures,
- To improve efficiency in operation of schools,
- To increase diversity and choice in the forms of educational provision, and
- To make institutions more accountable to their clients.

In most of the States in India, the majority of the schools are either Government or local body schools. According to the *Sixth All India Educational Survey* (NCERT, 1998), the number and percentage of schools by type of managements at different levels is as indicated in Table 1.

TABLE 1

Schools in India
By Type of Management 1993

	Primary	*Middle*	*Sec.*	*Sr. Sec.*	*Total*
Government	254606 (44.6%)	74796 (45.9%)	24559 (37.5%)	9136 (38.6%)	363097
Local body	270806 (47.5%)	54556 (33.5%)	7401 (11.3%)	889 (3.8%)	333652
Private aided	21557 (3.8%)	15520 (9.5%)	23060 (35.2%)	10646 (45%)	70783
Private Unaided	23486 (4.1%)	17933 (11.1%)	10544 (16.0%)	2991 (12.6%)	54954
Total	570455 (100%)	162805 (100%)	65564 (100%)	23662 (100%)	822486

NB : Figures within brackets indicate percentage of schools to the total at a particular level.

Source : Sixth All India Educational Survey, Selected Statistics, NCERT, New Delhi, July 1998.

Table 1 shows that nearly 45% primary and middle schools in India are government managed schools; nearly 47% primary and 33% middle schools are local body managed schools. Thus, over 90% primary schools and nearly 80% middle schools are in the hands of the government. Only nearly 8% primary schools are privately managed out of which 3.8% are financially dependent on government which in effect are almost wholly under government control with as much as 90 to 95% grant-in-aid. It is only 4% primary schools which are private unaided and can claim to be independent of the government in so far as school management is concerned.

At the middle stage, only about 20% schools are private out of which nearly 9.5% are grant-in-aid schools, leaving only 11% schools as truly privately managed schools.

At the secondary and senior secondary stage the percentage of private schools is higher as compared to primary and middle schools. Nearly 35% secondary and 45% senior secondary schools are private-aided while 16% secondary and 12.6% senior secondary are private unaided schools.

Low Quality of Government Schools

The Government has at present major ownership of the schools in India as is evident from Table 1. However, low quality of government and local body schools and their non-performance or low performance is forcing the government to the policy of privatization. Moreover, the financial resource crunch in government is another major consideration which has led the government to move towards privatization.

In practically all the States and Union Territories in India, pass percentages at secondary and senior secondary examinations are much lower for the government schools as compared to private schools. Table 2 shows the comparative position of the results of government and non-government schools at the examinations of the Central Roard of Secondary Education (CBSE) for the last two years.

TABLE 2

Secondary Exam. Results (All India)
Central Board of Sec. Education Pass Percentage

	1999	*2000*
Government schools	33.9%	37.9%
Private aided schools	54.0%	54.4%
Private unaided schools	86.5%	86.4%

Source: *Annual Report*, Central Board of Secondary Education, 2000.

TABLE 3

Secondary Exam. Results Delhi Schools Central Board of Sec. Education

	1999	*2000*
Government schools	33.8%	38.5%
Private aided schools	54.1%	54.6%
Private unaided schools	86.3%	86.8%

Source: Annual Report, (Central Board of Secondary Education, 2000

Obviously, Tables 2 and 3 clearly bring out the hard fact that there is a wide difference between the performance of Government and non-government schools at the CBSE examinations. Whereas the private unaided schools' pass percentage is over 86%, the government schools' pass percentage is only in the range of 33 to 38%. Even the private aided schools are doing much better than the government schools. The position is the same for Delhi schools. Situation in other states would not be in any way much different.

It is not only the pass percentages which are significantly poor in government schools, the quality of successful candidates is also very poor. Generally, not more than 6 to 8% successful students get more than 60% marks in government schools. The quality of private unaided schools is much higher. Normally, more than 50% students get more than 60% marks. The percentage of students getting over 80% marks is also quite high. Further, the number of those securing entry into IITs, regional engineering colleges, medical colleges and other professional courses through entrance examinations is also very large in the case of private-unaided schools as compared to government schools. It is note-worthy that several government schools consistently give only zero per cent or only 10 to 15% pass percentage at the different State Board examinations, which is a matter for serious concern.

It is often argued on behalf of the government that government schools cater to the first generation learners whose parents are generally illiterate and poor and therefore the quality of results could not be better. But the question which the government schools should address to themselves is as to why are they unable to attract students from middle class or upper echelons of society which they used to do about four to five decades back. Why is it that there is no proper teacher appraisal system? Why is it that: supervision is so weak and ineffective? And, why is it: that no action is taken against government schools which are non-performing? This is unfortunately so despite the fact that government school teachers get their full pay and allowances and other benefits which several private school teachers do not get!

Whereas private initiative in school management sans commercialization needs to be encouraged for supplementing meager resources of the government and for ensuring better outputs, the government cannot abdicate itself from its responsibility to provide schools where the private sector is unable to reach particularly in rural, remote areas and urban slums etc. It should not only open schools but also manage them well.

Functional Autonomy to Schools

Too much control and bureaucratization are anti-thesis to effective school management. It has been observed that wherever schools have been subjected to too rigid a control, it results in too much bureaucralization, spoon-feeding, lack of motivation and innovation on the part of heads of schools and teachers, and a spirit of working only to the minimum level of efficiency.

On the contrary, freedom to plan, administer and innovate, boosts the morale of teachers and other functionaries and contributes to higher level of efficiency. As stated by Terry and David (1986), people individually and in groups are the pivotal players in effective organizations. Good schools and school systems are populated by confident people who expect to succeed and expect others to perform to their personal level of competence. This shared sense of personal efficacy translates itself into pride and commitment to the organization. People feel that they belong to a meaningful entity and can realize cherished values by their contributions.

The cumulative effect of all this is that the teachers and other members of the staff work in a spirit which would raise the quality of teaching-learning substantially.

Often, institutions perform less when there is a greater emphasis on rules and procedures than on achievement of the goals. Desire for strict adherence to the rules and procedures hinders creativity and innovativeness. Rules should be considered only as aids to working, but if they assume paramount supremacy, they will seriously erode the efficiency and quality. Various processes which should normally lead to higher outputs would get blocked. There will be inordinate delays in realizing the targets of achievement and the staff will be under a constant threat of being asked to explain as to why they did not follow the set rules and procedures.

Best schools of the Central Board of Secondary Education are those which have adequate functional autonomy. It is an important pre-condition, for instance, of the membership of the Indian Public Schools Conference that the principal of the school must have the requisite freedom and autonomy not only in the selection and recruitment of staff but also in planning and execution of the various administrative and academic activities of the school. Most members of the National Progressive Schools Conference and some others similarly do have such freedom and autonomy. But the recent trend of the Department of Education in some states trying to 'control' and 'curb' the freedom and autonomy of private schools is threatening the schools to become subservient to the Department which is likely to seriously affect the quality and efficiency of these schools.

Schools managed, run and aided by government, do not generally enjoy freedom and autonomy. They are highly rule-oriented and thus are highly restricted in decision-making which in turn cripples their functioning and the outcomes. One of the basic reasons for low performance of most government and government-aided schools is that the principal of the school does not have that freedom and autonomy which a private school generally has.

While it may seem like heresy, Chubb and Moe (1986) state, if public (government) schools are to develop the organizational qualities essential for real improvement, it may be necessary to emulate the system of control that governs the private schools, where teaching and professional autonomy flourish.

The Government of India's National Policy on Education 1986, as revised in 1992, lays stress on granting autonomy to certain institutions and establishing the principle of accountability in relation to given objectives and norms. Accountability, however, is not restricted only to autonomous institutions. The accountability of all institutions is generally low. It is quite low in respect of institutions managed by government which has resulted in poor academic achievements, wastage and stagnation and poor utilization of available resources. Ensuring accountability is, therefore, a major concern of today.

Building Institutional Capacities

Strengthening internal school management is the key to the success of a school. Poor internal management leads to poor quality of education and mis-management of resources. In such an institution, there is no institutional planning, no sharing of responsibilities; the institutional culture and climate is weak, teacher motivation is low and there is lack of accountability on the part of the head of the school and the teachers.

Recent researches have shown that more attention needs to be given to building institutional capacities including the capacities of the principal and the teachers. Effective school-based management gives more responsibilities to the school and demands new non-traditional managerial skills from the principal (Anton de Grauwe. IIEP, 2000). Improving the quality of schools is a diffcult challenge and one of the more popular solutions resides in strengthening the capacities of heads of schools. 'A good head-teacher guarantees a good school', was the consensus at a recent international seminar organised by the Asian Network of Training and Research Institutions in Educational Planning (ANTRIEP) on 'Better School Management: The Role of the Head Teacher' at Shanghai in September 2000. It was felt that the capacity of the schools to improve teaching-learning is strongly influenced by the quality of the leadership provided by the head of the school.

In most countries, as Anton de Grauwe states, selection and recruitment practices have not changed, capacity building initiatives cover few staff, and professional opportunities, if they exist, remain scarce. Heads of schools, especially in rural and more remote areas are isolated and receive little or no support from the administration. The overall result is that there is a wide disparity between the current unchanged profile of the school head and the ideal profile of an innovative pedagogical leader.

The Institutional Capacity Building Involves inter-alia:

- Objective recruitment of qualified and capable head of school and other staff.
- Not allowing some posts in the school to remain vacant (this is somehow a chronic feature in case of government schools in most states in India).
- Having institutional planning in each school.
- Continuous monitoring of the progress of the implementation of the institutional plan.
- Having a proper support system for the school through school complex and mobilization of local community.
- Professional development of the staff and the head of the school on periodical basis including induction courses for the freshers.

The institutional capacity depends to a very large extent on the capability of the head of the school. The role of the school head is the most vital element in school-based management. The school- head is like the captain of the ship. He/she must not only have the requisite managerial skills but also have a vision and foresight to plan ahead, he/she has to carry his/her team along with him/her, motivate the team, establish a close rapport with the parents and the local community and make himself/herself accountable. He/she must have the requisite knowiedge and expertise in all these matters and should be able to undertake institutional self-evaluation at regular intervals.

DIETs are expected to orient heads of primary and middle schools and SCERTs are expected to orient heads of secondary and senior secondary schools. The DIETs and the SCERTs have to ensure that capacities of the heads of schools are duly strengthened in order to enable them to manage their schools effectively. The apex institutions like the National Institute of Educational Planning and Administration (NIEPA) and the Indian Institutes of Management will have to provide adequate support in this behalf. Since face-to-face training is not feasible to cover the large number of school heads (over eight lakh) in a country like India, alternative modes such as distance training and use of multi-media will be inevitable.

The Challenge of Change

The new millenium offers new demands on schools and places heavy new responsibilities on school management. A static, traditional management system will not be able to cope with the new demands and responsibilities.

The emerging challenges of fast changes that are on the anvil include:

- The curriculum change (NCERT has recently brought out after a wide discussion, the *National Curriculum Framework for School Education* (NCERT, November 2000). The new curricula demand new initiatives and new strategies on the part of the schools.
- Change in pedagoby (new curricula in different subjects envisage adoption of new techniques of teaching-learning)
- Change in student evaluation practices (new devices of evaluation including grading, semesterization, doing away with Class X public examination, introduction of continuous, comprehensive school-based evaluation are some of the reforms which would require new insights into the evaluation system).
- Challenge of Information Technology and electronic revolution, (use of computer-aided instruction and multi-media) is fast changing the classroom management; role of teacher is thus undergoing a major change.
- The concern for equity is going to persist but this has to be accompanied by the concern for raising quality of school education.

- Value system is fast eroding, causing a serious crisis of character. School management will thus be faced with the challenge of adequately meeting this crisis.
- Private schools may face stiffer competition among themselves and may consequently have to work harder to maintain their survival; the government schools may be faced with greater resource crunch and an increased threat to the school quality which may show further decline if serious efforts are not made to arrest the downward trend.

In order to be able to meet the aforesaid challenge of change, as the NCERT's curriculum document sums up, what is needed is "a complete overhaul of the management system and not cosmetic touches." Unless the school management is dynamic enough and is able to rapidly respond to the changing needs, the implementation of the new thinking and new strategies may receive a serious setback. School management has thus to receive a very high priority insofaras its reform is concerned.

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NCERT's Contribution to Educational Development

T.N. DHAR*

Introduction

The contribution — its extent and nature — that an academic institution has made is difficult to determine precisely, particularly if it has at no stage made a systematic study of the impact that its programmes have had. Further in view of the many intervening variables, the short and long term impact of educational policies and approaches cannot be attributed solely to an institution, no matter how significant it might be. Being somewhat different from institutions of higher learning — colleges and universities and professional education institutions —the NCERT is unable to provide such statistics as the number of its graduates, research scholars and the professionals that it has produced over the years. Even the products of various training programmes of its Regional Institutes of Education (known earlier as Regional Colleges of Education) do not represent any meaningful impact considering that the number of such graduates has been pitifully small in comparison with the trained teachers who pass out from training schools and colleges which are not a part of the NCERT. Even in respect of this small number no follow-up studies of how they have performed are available. One can, however, justifiably state that the curriculum of schools and training institutions has been substantially been influenced by what NCERT has done, partly because of the intense collaboration between it and various types of educational institutions.

Even otherwise the number of graduates and scholars passing out of an institution might be an incomplete and, therefore, an inadequate measure of its contribution to national life, partly because of the large number of variables involved in the evolution of leaders in different spheres of national life. While an educational institution might have a positive influence, it cannot be solely responsible for the qualities of an individual and his/her contribution to national life. In a country of India's size and diversity the contribution that outstanding individuals make in improving the life of people and its quality at different levels and in different spheres can be as significant as of those individuals whose contribution tends to become more visible at national or state levels.

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Background

In many ways the basic framework for many of the NCERT's policies and approaches was laid down by the institutions that the Government of India established in the fifties, to provide research, extension and training inputs to the education system of a newly independent nation. These included the National Institute of Basic Education, Central Institute of Education, Central Bureau of Textbook Research, Central Bureau of Educational and Vocational Guidance, Directorate of Extension Programmes for Secondary Education, Examination Reform Unit. These institutions helped in bringing together a band of specialists in different disciplines and assisted in focusing attention on the need to expand educational facilities and promote the quality and relevance of the system. The establishment of these institutions and the roles assigned to them are an evidence of the significant contribution that the officers of the central Ministry made, most of whom representing a variety of disciplinary background had been drawn from academic institutions — universities, colleges of general and professional education and scientific research establishments.

It was soon realised that inputs to school education had not only to be varied but also integrated so as to be mutually reinforcing. It was this consideration which led to the creation in 1961 of the National Council of Educational Research and Training. The Government of India Resolution of 1961 recognised the need for study of and research in educational problems, advanced training of educational personnel, generation and dissemination of educational information for educational policy making and programming and so on. The Resolution indicates in general terms the functions that the NCERT was expected to perform. Of particular importance is its role "to assist and advise the Ministry of Education and Social Welfare in the implementation of its policies and major programmes in the field of education, particularly school education". The specific functions visualised for the Council included educational research, pre-service and in-service training, extension services, experimentation with improved techniques, assistance to state level institutions, collaboration with international organisations, provision of training facilities of nationals of other countries, etc. In the course of its functioning these functions have been elaborated into more specific activities. A number of new departments in addition to those that had been merged to create the Council were established for performing the elaborated roles. In pursuance of the recommendations of the Education Commission, particularly those that related to the 10 + 2 structure and vocationalization of the +2 stage, Regional Colleges of Education were established for training of teachers, particularly for vocational courses. The Department of Educational Administration was delinked from the Council since the National Institute of Educational Planning and Administration had come into existence, replacing the Asian Institute that had been established with the support of the UNESCO.

Over the years, the roles of the Council have been reviewed and evaluated. These reviews have either evaluated the functioning of specific activities — for instance the four-year training programmes of the Regional Colleges — or overall objectives and organisational patterns. The most significant reviews include; Future Development of NCERT, 1968; Strategic Objectives, 1977; 48th (1981) and 81st (1982) Reports of the Parliament's Public Accounts Committee; Report of the Task Force on Organisational Reform, 1985. In June 1983 an additional Secretary of the Ministry of Human Resource Development (assisted by a Consultant) carried out an "abbreviated" review of the NCERT. These and other reviews have generally appreciated the roles performed by the NCERT in improving the quality and relevance of school education. In the context of changing educational perceptions and concerns, the reviews have recommended a modification of the Council's priorities, modes of functioning and organisational structures.

Constraints

For any meaningful evaluation of NCERT's role in, and contribution to educational development, it is important to consider the context and constraints within which it operates.

Being a centrally funded organisation, without a statutory status, the NCERT is often asked to implement policies and programmes which the Government of India considers to be significant. Having often been decided upon on intuitive and a priori considerations rather than empirical study of their value and significance, not many of these policies and programmes can be justified on the grounds of their utility and usefulness. Illustrative of these are the many training programmes that the NCERT "was made" to launch, although because of the very short duration prescribed, their value could at best be limited and probably not commensurate with the effort and resources invested. Further, with any change in governmental thinking, the NCERT is often required to shift its priorities. Considering that educational programmes have a long gestation period, midway changes make it difficult for programmes to fructify and lead to long term gains. In a way, therefore, NCERT's contribution or lack of it could partially be attributed to the government. In some ways the NCERT seems to function as a buffer. It is, therefore, not surprising that the oft repeated suggestion to give the NCERT a statutory status has not been acted upon.

The diversities that prevail in India also make it difficult for a single institution to design policies and programmes which are culture, context and situation specific. Without these specificities educational programmes often lose their relevance and, therefore, their usefulness. At best a research and development institution like the NCERT can design models and prototypes which other systems might adapt and adopt. This requires capacities at levels where such adaptation and adoption is to be undertaken. The various state level institutions — SCERTs, DIETs, Textbook Boards, etc. — have the responsibility to design educational programmes for actual implementation, taking into consideration the models and exemplar materials that the NCERT had developed. Collaboration between the NCERT and the personnel of these institutions was expected to be mutually beneficial, creating capacities for implementation and providing feedback for modifying approaches. Over the years, many state level institutions have remained short of resources — particularly of academic expertise — adversely affecting the possibilities of systematic and meaningful collaboration.

In the context of these and other constraints the NCERT's contribution to education has to be considered in general terms rather than on the basis of empirical assessment of the impact that its programmes have had. Its contribution could among other things be considered in terms of: role in generating educational thinking; suggesting and demonstrating the efficacy of distinct approaches to educational development; identification and promotion of awareness of the problems that confront access to and participation in education, particularly of the deprived segments of the population; creation of an information base for policy and programme planning; having facilitated the creation of capacities at different levels, support to educational research which is needed for design of approaches and so on. In these and in many other diverse forms the NCERT has made signal contribution.

Contribution

The first major contribution of the NCERT and the institutions that preceded their merger was the advocacy that education was more than mere classroom teaching. A number of significant inputs were needed to make education relevant to national needs and to enhance its quality in terms of students' competencies. Even effective classroom teaching depended upon these inputs. They related to curriculum design, teaching-learning materials, teachers' competencies, modes of classroom transaction, performance evaluation practices. The need was for a comprehensive outlook on educational development and an integration of the inputs that would make delivery of services effective and efficient. The integration of inputs was particularly significant for mutual reinforcement and enhancement of the impact. The development of the NCERT's "action plan" was substantially facilitated by the recommendations of the Education Commission, 1964-66 which looked at education as a major instrument of national development, laying down, in a way, the main priorities for educational development. In school education it was the NCERT which elaborated the Commission's recommendations and worked out a plan of action specifying policies, strategies, programmes and guidelines for implementation.

Curriculum

The formulation of curriculum framework provided, in a way, the main entry point for remodelling school education, soon after the Education Policy, 1968 was adopted. The first framework, *Curriculum for the Ten Year School: A Framework*,was brought out in 1975. It represented the "first ever effort at the articulation of a national curriculum". The Framework was based upon an analysis of syllabi prescribed in different states, curricula available in different countries and widespread consultations with experts and practitioners of the trade. The main thrust of the curriculum was a uniform scheme of studies up to Class X. The Framework recognised the importance of scientific and mathematical literacy on the part of students who had to function in a world increasingly dominated by scientific and technological advancement. It therefore recommended compulsory study of Science and Mathematics up to Class X which in some states were optional. The Framework was followed by two other documents in 1978: *Higher Secondary Stage and Its Vocationalization* and *Learning to Do: Towards a Learning and Working Society*. The two documents elaborated the concept of vocationalization of the + 2 stage and provided the guidelines for an effective implementation of the programme. The preparation of curriculum framework has been a regular activity of the NCERT. The 1975 and 1978 frameworks have been followed by the *National Curriculum for Elementary and Secondary Education : A Framework* in 1988 and the *National Curriculum Framework for School Education* in 2001. Since these frameworks have been preceded by critical studies and have been based on collaborative involvement at various levels, their acceptance and credibility have generally been ensured.

The "lesser" known attempts at curriculum formation, but significant and innovative, have included:

- Minimum Learning Continuum which laid down the competencies which every child should attain at masterylevel at the end of five years of primary education. The Minimum Levels of Learning which now forms the basis for primary education curriculum and syllabi built upon what the Continuum had recommended as teaching-learning goals and activities. The MLL itself is the handiwork of the NCERT faculty.
- Comprehensive Access to Primary Education which developed teaching-learning materials in relation to the needs and concerns of communities. The approach recommended in CAPE has not only helped in designing syllabi of primary schools but also provided the basic framework for teaching-learning programme of the non-formal education centres.

In somewhat new curriculum areas, the NCERT has contributed in clarifying concepts, developing graded materials and generally indicating the modes of transaction and performance evaluation.

The curriculum framework has always shown concern for the incorporation of materials reflecting national concerns and implications of various developments. This has obviously been done to generate among students an awareness and knowledge of these concerns and, hopefully, for promoting their competency to deal with them. Illustrative of these are environment related problems, population and nutrition education, computer literacy, national integration, information technologies and value orientation. In the case of some, the inclusion of materials has been due to the advocacy of some groups (for instance, traffic education, fire hazards and safety, etc.). The requirements of public examinations and of admission to professional courses seem also to have contributed to this process. In the process; complaints of overload, emphasis on information at the cost of processes of teaching and learning and ideological biases have been voiced in different circles. These and other problems seem to arise largely from the general desire to do all that is possible (in terms largely of providing information) rather than what is feasible and educationally desirable. The other reason seems to be the failure to take note of learning base of students at the time of admission and the significance of other sources of learning (electronic media, newspapers and journals, and community resources) that provide information and knowledge to prospective entrants.

Without detailed and rigorous analysis, it is difficult to provide definitive evidence of the extent to which the curriculum frameworks have influenced school education in the states. Considering, however, the superior academic resources of the NCERT and the wide ranging consultations that characterise the exercise — involving apart from experts and general public the state level agencies — the frameworks have found general acceptance. An illustration of this is the provision in state syllabi of compulsory study of science and mathematics which till the ten year curriculum framework, were taught optionally in many states. One also comes across textbooks brought out by private publishers with the caption, "prepared according to NCERT syllabus", which seems to indicate the credibility and acceptance of NCERT's formulations. The adoption of NCERT curriculum in schools maintained by the Central Government and those affiliated to the Central Board of Education, which show superior performance on the part of students both in public examinations and admission tests for professional courses, has provided an example worth emulating.

Teaching-Learning Materials

The curriculum framework has always been followed by preparation of detailed syllabi for various subjects and preparation of textbooks and other packages like teachers' guidebooks and workbooks for students. Four distinctive features have characterised this effort:

- *Association of Reputed Academics*: The process began with the establishment, by the Government of India, of the Central Committee on Educational Literature in 1953 for the preparation of educational materials. The Committee set up a number of panels and study groups with which the NCERT in its earlier forms was associated. The first syllabus and textbooks were brought out by these panels/study groups in 1960. It was for the first time that leading experts in various disciplines were involved in the exercise to formulate school syllabi and school textbooks. The pattern adopted was largely like that of the USA when in the aftermath of the launching of the SPUTNIK, leading scientists collaborated in the preparation of school syllabus and textbooks. This modality of associating experts with school education was commended by the Education Commission which hoped that "the states will make full use of this pioneer venture to improve the quality of their books".
- *Material as a Package*: Along with textbooks, the NCERT develops teachers' guidebooks and workbooks for students which facilitate classroom transaction and self-learning on the part of students.
- *Involvement of Teachers*: Practising teachers have always been involved in the preparation of materials, although complaints about their rather subservient role in the presence of experts have often been voiced. The association of teachers has provided a sense of realism to the exercise of materials preparation, indicating the feasibility of what can be transacted in classrooms.

- *Research and Trialing*: Considerable research effort precedes preparation of materials, the basic objectives being that of facilitating their comprehensibility (language, concept grading), classroom transaction and ensuring their relevance. The final editions are generally brought out after trialling in classroom situations which provides the necessary feedback. This process, although necessary, has not always been found feasible, particularly in the context of pressures that are exerted to make available textbooks by a 'prescribed' deadline. It is not unoften that complaints about the difficult nature of the content and often it being outdated have been voiced.

The NCERT does not exercise copyright for its materials as far as state agencies are concerned. The only requirement is that of acknowledging that the material has been borrowed or is based on what the NCERT has done. Some states like those in the north-east and in the case of some textbooks Jammu and Kashmir have prescribed NCERT materials for their schools. Other states have also been influenced by the approach and content of NCERT materials although no systematic study of the extent to which this has happened has been made. Although not very commendable, the pirated editions of NCERT textbooks is an evidence of their popularity and acceptance. Of late, the demand for international edition of NCERT textbooks has also been voiced.

A major contribution of the NCERT — partly because of the effort that it has made and partly because of its constant advocacy — has been what is termed as nationalisation of school textbooks. States have set up textbook boards which publish school textbooks, directly or under their sponsorship and control. This has in most cases put a stop to malpractices which some private publishers indulged in for ensuring the prescription of their textbooks in schools. It has also enabled the states to either distribute free textbooks or produce textbooks at no-profit no-loss basis so that they are affordable. The Education Commission had made a specific mention of "the proliferation of low quality, substandard and badly produced books". The Commission stated: "As education began to spread, the textbook industry became one of the very profitable fields for investment and evils of the type (malpractices in selection and prescription of textbooks). Unscrupulous tactics adopted by several publishers became more or less conspicuous". The all India Conference of Textbook Boards, sponsored and supported by the NCERT, used to provide an important forum for exchange of experiences and for highlighting problems faced and generally for collaborative work between NCERT and textbook Boards. Similarly, regular evaluation by the NCERT of school textbooks on various criteria was helpful in modifying the content to make it more relevant.

Alternative Approaches to Education

A major contribution of the NCERT has been the design of alternative strategy for extending the reach of education through other than regular full time institutional means. The deprived segments of the population have experienced difficulties to avail of the educational provisions that the state has made available over the years. These difficulties are of various kinds — social prejudices preventing girls from continuing in education, poverty necessitating children to either skip schools or drop out of them prematurely, sparsely populated habitations making establishment of schools economically and academically non-viable. Non-participation and early withdrawal of children required that education be provided to them at a time which is convenient and through arrangements which do not necessitate full time attendance. At the same time education provided should be such that children reach attainment levels which are broadly equivalent to those attained by children of regular full-time schools. This would enable them to join full-time schooling if and when they so desired. The design of non-formal educational strategy has been a major contribution of the NCERT in educational development.

The important point to note is that the desirability of the approach was not only conceptually worked out but its feasibility demonstrated through 200 odd centres that the NCERT established in late seventies under the auspices of its Regional Colleges of Education (now Regional Institutes of Education) and the Field Advisors' Offices. These centres encompassed a variety of socio-economic and educational situations and had therefore the possibility of being replicated in diverse situation. The approach required condensation of five years' course of primary education into three years (in the case of upper primary schools into two years), preparation of textual materials, design of activity schedules, training of instructors and formats for evaluation of students' performance so that they would be enabled to join regular schools if they so desired. It goes to the credit of the NCERT that the subsequent programmes of non-formal education, implemented by states and non-governmental organizations, including teaching-learning material and modalities for training of instructors and evaluation have been modelled on the experience of NCERT's 200 odd centres.

The NCERT also experimented with specific language learning packages for children of tribal areas in whose case the transition from home language to the somewhat formal language of the school presents problems both for comprehension and communication and concept formation. Both these are significant since learning in successive stages is built on what has been learnt earlier. The experimental work done in collaboration with Tribal Research Institutes and other institutions, provided an experience of more comprehensive approach than merely that of mainstreaming. The experience has been useful for designing teaching-learning and supplementary reading materials needed for expanding education in tribal situations. The other contribution of addressing the needs of specific target groups has been in respect of gender sensitisation. This included evaluation and modification of textual materials, not only from the point of view of affecting gender related attitudes but more so in creating positive image of the significant role that women play in the economic life of the country and in promoting social stability through conservation of religious and cultural heritage. The research and development work done in designing modalities for integrated education of the disabled in late seventies has provided models for successive effort on the part of other agencies and organizations. In this area the training of personnel has been of particular importance.

Teacher Education

The competencies of teachers to teach and facilitate children learning are a crucial element of curriculum planning and its implementation. These competencies, speaking broadly, include: knowledge of the child and his/her developmental needs, knowledge of the subject, knowledge of pedagogy and a commitment to teaching and to the all-round development of children. Pre-service teacher education in India has suffered from a number of deficiencies: poor academic background of prospective teachers which in a way limits the scope of teacher preparation, short duration of courses, poor infrastructural resources of institutions, and inadequate knowledge and pedagogic base of teacher educators. The large number of teachers working in the system — almost three million — has proved planning and implementation of inservice education of teachers daunting. Even otherwise, it needs to be recognised that no amount of inservice education can completely remedy the deficiencies of pre-service education. Being largely the responsibility of the states and their agencies, the NCERT's effort to make teacher education effective can at best be promotional, demonstrative of improved and innovative forms and modalities and generally in providing a database. Its contribution in teacher education — both pre and inservice — has been substantial and diverse. The following paragraphs indicate briefly some of the Council's achievements.

National Council for Teacher Education: Before its establishment as a statutory organisation with regulatory authority, standards setting and other functions, a National Council for Teacher Education (NCTE) was established with the NCERT as its secretariat. The Council had provided a forum of bringing together state agencies and other experts in identifying the tasks that required to be undertaken to reform teacher education. It was in fact the advocacy of the NCERT that resulted in the creation of NCTE as a statutory body by an act of Parliament passed in 1993.

Curriculum Formulation: The first exercise to prepare a curriculum for teacher education for adoption on an all India basis was undertaken by the NCERT and the auspices of the then NCTE in seventies. The first Framework for Teacher Education was brought out in 1978. The Framework indicated the objectives of teacher education for different stages of education and advocated "an explicit skill-based approach" to teacher education. Its main thrusts included: a knowledge of pedagogic theory, teachers' competency to work with community and improved modes of practice teaching, including practical work. After 1978 the various developments, including the National Policy on Education, 1986, technology explosion and the publication by the NCERT of the *National Curriculum for Elementary and Secondary Education: A Framework* in 1988 required a relook at the teacher education curriculum framework of 1978 with a view to "overhauling teacher education". The then NCTE released in 1988 the *National Curriculum for Teacher Education : A Framework*. The main objective of teacher education was perceived to the preparation of the future teacher who would be "a competent professional, skilled teacher like the one he always has been expected to be, but this will now mean that he will be an effective communicator, a designer and user of learning resources, a learning facilitator and an active participant in community life". Although not fully, teacher education curricula of training schools and colleges have been significantly influenced by these frameworks.

Innovative Teacher Education Programmes

In early sixties the NCERT introduced in its Regional Colleges of Education (now designated as Regional Institute of Education) four-year integrated content-cum-pedagogy courses which enabled a higher secondary school passed student to get a first degree in a subject (B.A., B.Sc., B.Com) and a degree in education (B.Ed). The courses comprised general education, professional education, courses in subject content and internship of a longer duration. The knowledge in the three subjects was transmitted in an integrated manner and the four-year duration of the course was expected to help in moulding the attitudes of the prospective teachers. It was expected that "the experimentation of an integrated approach to presentation of academic and pedagogic knowledge inputs" would facilitate the development of a "logical and effective model of training" replacing in time the prevailing one-year teacher education courses in which students enrolled after completing the first degree of three years. The courses were discontinued for various reasons which included: that 16-17 year olds completing 11 years of higher secondary education were too young to decide upon their future careers; these courses had marginal impact on the prevailing system of teacher training; no particular advantage accrued to those who had completed the four-year courses vis-a-vis those who completed the usual one-year B.Ed courses; the implementation of such a programme would have large financial implications; and that, if at all, such courses should be provided in universities since their availability in RCEs requires duplication of faculty resources (separately for subject teaching and education courses). They were again revived in 1980 and subsequently discontinued. The NCERT also experimented with M.Sc. Ed. courses in Mathematics, Physics, Chemistry and Biology. They were subsequently discontinued. "Thus a major innovative programme of teacher preparation for the secondary stage ended before it could be expanded and absorbed into the existing institutional structures for teacher education". Since then the NCERT has introduced some other innovative courses such as M.Ed (Elementary), two-year B. Ed (Secondary) and so on. Even when the innovative courses were discontinued they have provided an experience which can be useful for future remodelling of teacher education.

Inservice Education

Inservice education of teachers continues to remain the responsibility of state agencies. The NCERT has, however, over the years undertaken innovative inservice education programmes. These include:

(i) Cascade Model which involves a three-stage process of training: identification and orientation of key/resource persons; training of master trainers; and training of teachers. This approach was adopted in the training of a large number of teachers under two programmes initiated by the Ministry of Human Resource Development, viz. Programme of Mass Orientation of School Teacher (for creating awareness among teachers of their roles and functions in the context of the National Policy on Education (1986); and Special Programme for Primary Teachers (focusing on creating teachers' competencies in Minimum Levels of Learning, use of Operation Blackboard materials, child-centred education and skill and activity-based teaching and learning. In both programmes a multimedia approach, consisting of face-to-face interactions, self-learning packages and audio-video material, was adopted. Although the programmes were of very short duration, their experience demonstrated the possibility of providing focussed inservice education to a large number of teachers.

(ii) Use of Electronic Media: The first experiment in using modern communication technologies in upgrading the competencies of teachers was undertaken by the NCERT with the collaboration of the Indian Space Research Organization and national broadcasting and television networks in late seventies. Satelite Instructional Television Experiment, using multi-media package, was a pioneering venture which provided the experience necessary for extending the reach of education. Since then the modality has been supplemented with teleconferencing under the SOPT and interactive inservice training using electronic media in Gujarat, Karnataka and Madhya Pradesh. These experiments were conducted in collaboration with ISRO, IGNOU, State SCERTs and NCERT's Regional Institutes of Education. These experiments have provided experiences helpful in using distance mode, with multi-media packages, as a major strategy to upgrade the competencies of the large number of teachers that the education system employs. The availability of an exclusive educational channel (Gyan Darshan), makes it now possible to provide inservice education to teachers without moving them to training camps. The added advantages are: enabling teachers through interactive mode to seek solutions to their problems and reduction of losses in transmitting messages between key persons, master trainers and teachers that usually occur in using cascade approach.

(iii) The NCERT also did pioneering work in using radio and television in support of teaching and learning of students and in enhancing the competencies of teachers. The audio-video programmes, produced by its Central Institute of Educational Technology provided the prototypes which the State Institutes of Educational Technology adapted and translated for use in schools. The collaborative activity that the NCERT has undertaken in this area and the training programmes that it has undertaken — for script writing, animation, designing of production formats, use of sophisticated equipment, etc. — has contributed significantly in building capacities for wide use of electronic media in education.

Examination Reform

The improvement of modes of evaluating students' achievement needs to be viewed as a package of curriculum change, the other elements being syllabus formation, preparation of teaching learning materials, and upgrading of teachers' transactional competencies. Examination reform was undertaken in the initial stages of NCERT's formation by the Examination Reform Unit. Since then there has been considerable effort in promoting the use of improved and effective modes of evaluation. The effort has included: working with the State Boards, training of paper-setters and evaluators, development of question banks, publications dealing with problem-solving in various subjects and so on. In recent years the NCERT has advocated the use of grades, instead of marks, for determining the level of performance of students at public examinations. A publication indicating the modality for the use of grades has also been brought out. Although the contribution of NCERT has been impressive, the examination system in India continues to be archaic. Part of the difficulty seems to lie in the insistence on pre-requisites — including percentage of marks obtained in specific subjects — even for taking admission tests of institutions offering facilities for the third level education, particularly in professional courses.

Teaching Aids

The design and use of teaching aids, particularly those that were not costly and could be fabricated by teachers by using low-cost locally available materials has been an important area of NCERT's activity. One of the pioneering ventures was the design and fabrication of science kits for use in primary and middle schools for demonstrating and conducting experiments in science. These kits, based on locally available material and easy to assemble by teachers, proved useful in schools, a majority of which could not afford costly laboratories and laboratory equipment. The kits proved popular and motivated states to design and fabricate similar kits for use in their schools. These kits, gifted by the NCERT, also found a place in schools of some neighbouring countries in addition to the Council training their teachers in their use.

A significant contribution has been in designing and promoting the use of such traditional, popular and easily available modes of entertainment, as puppets in support of teaching and learning. Through its Children's Media Laboratory, the NCERT demonstrated the making and use of children's toys using inexpensive and often discarded materials, in educating preschoolers. The prize competitions that it organized has been of considerable help in generating enthusiasm and capacities among pre-school teachers in designing and using toys in nursery education. The NCERT's work in pre-school education has been largely responsible for indigenising pre-school education, particularly in the form of equipment, nursery rhymes and children's learning need not depend upon expensive equipment which has generally been the case in nurseries and kindergartens patronised by economically affluent groups. The added advantage has been that of relating pre-school education to culture of the learners.

Talent Identification

The NCERT has contributed significantly in developing modalities for identification of talent which needs nurturing. The design of tests and interviewing procedures for the National Talent Search has helped a large number of higher secondary school graduates to get financial support for pursuing higher studies. The initial objective was to identify talented children who could be supported for pursuing careers in basic sciences, a need felt when choice of basic sciences at higher education levels was not being exercised by many talented students. The scope of the programme has since been widened to include other disciplines. Each selected student is provided financial support to pursue studies up to the doctoral level. Over the years the number of students who take the tests has increased manifold. This, along with some states instituting their own talent identification programmes, demonstrates the credibility of the procedures that have been followed. In the beginning the selected students were exposed, in interaction sessions, to reputed scientists and academics who discussed promising areas of research and development. Although significant, the nurturing of those who have been selected has not received much attention. A promising development has, however, been the establishment of what are known as the "super ability" schools in some states, catering to the educational needs of the gifted.

The NCERT has also been conducting "examinations" for selection of students for Navodaya Vidyalayas and for identification of talented students for award of post-matric scholarships and of students for study in public schools. These categories of students generally belong to households whose economic resources do not allow them to educate their children in schools where education provided is of a higher quality. The objective is to ensure equity and social justice, using education as an instrument.

The All India Science Exhibition is the other forum which helps in identifying students with innovative and creative abilities. Those who exhibit their models are selected from among those who have participated in state level exhibitions and have been adjusted as suitable for participating at the all India exhibitions. The NCERT's effort has led to a chain reaction, motivating states to promote scientific creativity among school students.

Information Base for Planning

The data that the NCERT provides through its all India education surveys remains the principal source of empirical information on which more realistic planning and programming of educational development can be based. The surveys indicate the status of school education at a given point of time. Information is available on a large number of indices, all of which are not covered in the educational statistics that the Ministry of Human Resource Development collects from the states. The various items of information include: accessibility of educational facilities in habitations with different population sizes; classwise enrolment and gross and net enrolment ratios (the latter indicating the true magnitude of non-enrolled children of constitutionally prescribed age-group for universal, free and compulsory education); teachers by experience and academic and professional qualifications; availability of pre-school and alternate forms of educational arrangements, including those for children with special needs; infrastructural deficiencies of institutions; implementation status of such state initiatives as incentives and vocationalisation and so on. So far six surveys have been completed. Each of them has provided directions for educational interventions. Although state personnel participate in the exercise, the NCERT's surveys do not seem to have generated enough enthusiasm to base educational policies and programmes on empirical information. The other problem has been the delay that occurs in making available the information at a time which coincides with plan formulation exercises.

Educational Research

With primary responsibility for it, the support provided by the NCERT has made educational research in India more systematic and rigorous, apart from generating the need and consciousness for empirical research useful for educational planning and programming. Its research activities encompass a number of strategies: support to its academic faculty in undertaking investigations into educational problems of significance; research fellowships which promote the development of capacities at institutional and other levels; financial support to scholars and institutions to conduct investigations; collaborative investigations; and sponsorship of research in areas of educational priority. In many areas it has promoted research for development of an indigenous knowledge base for designing of educational programmes in relation to specific contexts. It has made an effort to prepare a list of research priorities from which research fellows and others can make a choice for their post-graduate work. In some cases a shelf of projects, along with the objective and methods for carrying out research has also been prepared. A major and significant contribution has been in disseminating the findings of research through its documents, facilitating the work of scholars, not only in identifying the problems for further investigation but also informing them of the findings in their related areas of research.

Support for International Programmes

As an associated centre of the Asian Programme for Educational Innovation and Development (UNESCO's Regional Office for Education in Asia and the Pacific, Bangkok), the NCERT has rendered considerable assistance to the countries of the region. This assistance has usually taken the form of: exchange of print and non-print materials, training of personnel of other countries through mobile training teams, participation in the formulation of regional plans for educational development and deputation of experts on short and long term assignment for helping countries in dealing with specific educational tasks. The NCERT has also on request from international financial institutions and neighbouring countries organised training programmes for and study visits of educational personnel of SAARC countries. In some cases, even the costs of material and training have been borne by the Council. The structure and functions of the Council have also provided a model for some countries to build institutions and their capacities for providing research, development and extension support to their educational systems.

Summing Up

The preceding paragraphs have highlighted some of the functions that the NCERT has performed and is continuing to perform. The list does not exhaust all that the Council and its departments and constituent units have been doing. The activities and their scope is large and diverse, making it almost impossible to enumerate it in a single article. The principal criteria in selecting some of the task here have been: innovativeness of activities; models that they have provided for others to emulate; directions for educational development; promotion of educational thinking; emphasis on providing multi-dimensional inputs in an integrated fashion, providing an information base for educational interventions, development of capacities at different levels and so on. While there has been considerable acceptance of what the NCERT has advocated and designed and developed, the actual impact of its thinking and activities has been difficult to gauge. Probably this is true of all education programmes which lead to many intangible outcomes and that too in the long run by which time it becomes difficult to attribute the impact to a single initiative or set of initiatives. And as has been stated earlier the impact of NCERT's work depends largely on the states' acceptance of its policies and programmes, their willingness to try them out and the capacities of their institutions to adapt and adopt the models. The constraints experienced by these agencies substantially limits the capacity of NCERT in influencing educational development in a situation characterised by large magnitudes and considerable diversities.

Optimizing Institutional Functioning

J.S. RAJPUT*

Context of Institutional Growth

Educational developments in the post-independence period in India are characterized by the national commitment to achieve universal elementary education and consequent establishment, growth and networking in institutional infrastructure. The process of rapid expansion calls for establishing an organic relationship with quality, relevance and suitability of education and national needs. The institutions need to make extra efforts to ensure that critical aspects required to achieve the objectives of education are not diluted in the process itself. There are umpteen experiences which can be cited from within the country and also from outside which present realistic scenarios. Based upon these there is a general impression that institutional functioning, particularly in the context of education in India at every stage, has generally shown signs of considerable deterioration. One would be extremely happy if this conjecture is incorrect. However, an analysis of various related issues and facts confirm the conjecture and would indicate a discouraging scenario.

The changes of the last half of the twentieth century have clearly established the need for acquisition of new skills by all, specific new skills by various groups of people and the need for readiness on the part of individual workers in various fields to renew and update their existing skills and to acquire new skills on regular intervals. This is essential for the survival of the systems and success of the institutions apart from retaining the professional utility of the individual concerned. These are the times when knowledge is doubling every two to three years and its consequential effect on the process of teaching-learning are visibly significant. Everywhere there are concerns for enhanced pressures and tensions on the learners particularly during the sensitive years of growth and development spent in schools. Obviously those who are responsible for teaching and for preparing teachers are also under similar stress and strain. The issues of keeping pace with the new knowledge, competencies and skills on one hand and the requirement of discarding the redundant on the other are not getting matched fully in the systems. The educational systems and educational institutions are either probably not yet professionally equipped to analyze these aspects or are constrained by the inherent human inertia to undertake the challenge and come out with solutions. Learners, however, would be the sufferers on both counts, i.e. if they are deprived of the new knowledge or if they are overburdened with obsolete knowledge. This applies to teaching and learning in institutions and also to managing institutions of education.

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It is, therefore, essential that the institutions of education and those responsible for taking decisions at various stages fully understand and appreciate the subtle aspects of educational change and evolve strategies to put these into practice. An interesting scenario is emerging. The research under Genom Project can no longer be kept away from the process of teaching and learning in primary schools. How to do it? The issue to be decided by the system would be about the level, extent and the manner in which the findings of such researches or the efforts initiated are to be put before the teachers and then the children. It is a big challenge. Does the infrastructure of an institution provide opportunities to the teachers to plunge into this type of activity? There are various possibilities which have opened up with the advances in information and communication technologies. These opportunities are being put to use in schools in several countries which have the adequate resources and willingness to change. There are countries which may have the necessary expertise and readiness but may be hampered by the resource crunch or an attitudinal inertia. Even these have to find out ways and means to ensure that their children do not suffer because of these inadequacies. There is a huge and increased competition for young persons everywhere. In the times of globalization, it is a world of global competition. There are breakthroughs and advances in various fields which cannot be ignored. The challenge of the pace of change has to be accepted by individuals and also by nations. Response to change can only be delayed. It cannot be avoided like death and taxes. Those who do not understand the context and do not realize its implications would invariably perish professionally. It is not difficult to identify institutions which survive but which have lost their professional reputation.

Individual: The Hub of the Institution

The most critical element in any institution is the individual. What immediately follows in criticality is the extent of human relation within the institutions. The environment within the institution is also governed by such factors as role expectations, the level and extent of mutual trust, the organizational climate and a couple of other factors. There is the famous work of Douglas McGregor which gives a good representation of human resource thinking. Several researchers refer to maturing of human relations in an organization as human resource, suggesting a change of emphasis from social needs of the individual at work to needs expressed as a desire for more intrinsic satisfaction from increased organizational responsibility and from achieving of organizational goals (Miles, 1965; Sergiovanni, 1979). Given in the context of managers, McGroger's Theory X and Theory Y provide an interesting scenario of human contributions and individuals. Some aspects of these theories may be of interest.

Theory X

(i) Average human being inherently dislikes work and tries to avoid it.

(ii) In view of (i) above, people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort towards achieving of institutional objectives.

(iii) Average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition and wants security above all.

Theory Y

(i) Average human being does not inherently dislike work Work could be a source of satisfaction when voluntarily performed.

(ii) Work is a source of punishment when forced upon.

(iii) If assisted properly average human person can be expected to exercise self-direction and self-control.

(iv) Commitment to institutional objective is a function of rewards and achievement.

(v) Average human being learns to accept responsibility and to seek responsibility.

These are inherent human characteristics.

Various aspects of these theories can be analyzed in different situations. What is critical? Individual's growth, development, attachment and priorities on one hand and those of the organization on the other. The growth and development of the institution would be governed by the greater extent of overlap of the individual goals and organizational goals. There has been no unanimity on the extent and magnitude of involvement and association of individuals in the process of decision-making, joint planning, common goals, and sharing responsibility and autonomy. Even if there were theories available essentially what would matter is the interaction that takes place within the institution. It would be difficult to disagree with the observations that institutions can't afford a general attitude of apathy and in-difference amongst its individuals, irrespective of their positions and assignments. From this emerge the challenges before the heads of institutions and also the policy-makers.

Learning Institutions

The concept of learning institutions as analyzed in Lynton and Pareek (2000, pp.39-40) have evolved over the years through various stages of development. In the earliest phase (1940-60) which can be called as the classical period, the basic ideas of scientific management as given by Frederick Taylor and that of bureaucracy by Weber were formulated and got evolved. These ideas became the precursor to the subsequent idea of human resource development which further evolved into organizational development and finally into the idea of learning institutions.

The second phase can be seen in the work of Kurt Lewin. He gave variables which affect performance and called them as field forces. They were to be unfrozen, changed and refrozen. Later on contributions were made by psychologists like Maslow and

McClelland with reference to motives and needs that tacitly contribute to human resource development, organizational development or learning institutions.

The next phase of organizational development came during the 1960s and 1970s. Here one has to refer to various trends which were particularly influenced by Japanese economic performance like quality management and total quality management. At this juncture strategic planning gained currency, and became a key concept.

The fourth phase relates to emergence of the concept of learning organization paradigm. Contributions of Chris Argyris, Donald Schon and Peter Senge need mention here. The main features of a learning organization are — it appreciates complexity, it develops collaborations, it creates the future, it masters personal excellence and experiments with learning how to learn. Its thrust is on using knowledge in order to improve and upgrade its impact and performance.

Role of Conflict and Institutional Culture

Considerable studies have been made on how the organizations function. An overview of organizational functioning at various levels and here the term functioning means dynamic functioning, would indicate that certain concerns emerge invariably. Conflict is one of them. Its nature could be different. It is however to be understood that conflict is neither abnormal nor a centre of the breakdown of the institution's community. It is also not rare to find fragmentation of organization into interest groups and what would be called power manipulation. They naturally try to influence the functioning, decision-making and the process of change and reform. Institutions could also suffer from external pressures, such as political pressure and bureaucratic decision-making pressures like transfers and ignoring the expertise and interests of the individual.

Every institution develops a culture of its own which in fact appears very desirable. It establishes linkages and could contribute in attaining greater respect for the institution. The factors, which would contribute most, are the level of perspective of its task and the mean development of the institution and the values to which it adheres.

According to Sergiovanni (1994), communities are collections of people who are connected together because they share common commitments, ideas, and values. He suggests that schools can be understood as:

- Learning communities where not only students but all members of the school community are committed to thinking, growing and inquiring and where learning is an attitude as well as an activity, a way of life as well as a process.
- Collegial communities where members are connected to each other for mutual benefits and to pursue common goals by a sense of felt interdependence and mutual obligation.
- Caring communities where members, motivated by altruistic love, make a total commitment to each other and where the characteristics that define their relationships are moral in character.
- Inclusive communities where economic, religious, cultural, ethnic, family, and other differences are brought together into a mutually respectful whole.
- Inquiring communities where principals and teachers commit themselves to a spirit of collective inquiry as they reflect on their practice and search for solutions to the problems they face.

The school which recognizes itself as a community will be characterized by the magnitude of interpersonal bonds amongst its members and the extent of attachment of individual members to the school. Once again the third component would be the common values, norms and beliefs which are followed by the institution and individual alike. Such an institution invariably commands moral authority and evokes respect from all others.

Knowledge Worker

The current juncture in history is characterized by knowledge explosion. It is a transition from muscle power to money power which has now come to mind power. About this power Francis Becon wrote much earlier. Churchil propounded the dictum 'future empires shall be empires of mind'. The term knowledge worker has gained currency and there are sufficient reasons to accept its existence. In fact one has to perceive and feel the transition from a principal, teacher or an educational functionary in any other designation getting transformed in their task assignments to a knowledge worker. The 'output' or the 'productivity' of the worker has been under study by those who understand the systems of management particularly in industry and in the market. Several of these are equally applicable to the field of education and educational functionaries. Peter Drucker (1999) has identified six major factors that determine these outputs:

- Knowledge worker productivity demands that we ask the question: "*What is the task?*"
- It demands that we impose the responsibility for their productivity on the individual knowledge workers themselves. Knowledge workers have to manage themselves. They have to have *autonomy*.
- Continuing innovation has to be part of the work, the task and the responsibility of knowledge workers.
- Knowledge work requires continuous learning on the part of the knowledge worker, but equally continuous teaching on the part of the knowledge worker.
- Productivity of the knowledge worker is not — at least not primarily — a matter of *quantity* of output, *Quality* is at least as important.
- Finally, knowledge-worker productivity requires that the knowledge worker is both seen and treated as an "asset" rather than a "cost". It requires that knowledge workers *want* to work for the organization in preference to all other opportunities.

Drucker has subsequently stated that each of these is exactly opposite to that of a manual worker.

It would be of interest at this stage to recall that the teaching and learning process in the Indian tradition (Rama Jois, 1999) consisted of four stages:

(i) Acquire knowledge/education from your parents and teachers;

(ii) Make your own study and improve the knowledge;

(iii) Impart value-added knowledge to other individuals, that is, to your own children as parent and to others as a teacher or in any other capacity; and

(iv) Use that knowledge for family benefit, as also for the benefit of the society through your profession, avocation or employment, etc.

It would be seen that this approach provides for preparing the individual to acquire knowledge, strengthen knowledge, create and generate knowledge and utilize the same. It needs an analysis to understand how far these basic postulates remain valid even at present.

It is for the institution, the policy formulators and implementers to ensure that the distinct stages of teaching and learning process are fully reflected in policy formulation, delineation of programmes or activities or actual programme implementation. Unless and until every individual concerned asks question and attempts to find out answers, the issue of quality and reforms will remain elusive. Education in India has already passed through a major phase of expansion. It still has to achieve much by way of expansion. The time is ripe to give due premium to quality and not consider it as a hindrance. What matters is not how many students a teacher is teaching, but how many are learning anything? It is the acquisition of learning which has to be the prime force to evolve the strategies of institutional functioning and the methodologies of extracting maximum in head, heart and hand from every individual who may be a part of the institution.

Leadership Role

It is true that organizations of the future will require a new kind of leadership which is future-oriented, performance-based and synergy directed. The leader will be expected to facilitate work flow and productivity and bring about a positive change in attitude of employees towards work, institution and output.

One of the important tasks for a leader shall be to build links and networks between various departments of an organization, build networks between individuals, horizontally, vertically and also with other sister organizations.

The concept of institutional networking has certainly established itself in India. We have institutions established during the last five decades which have acquired a reputation of their own in professional fields and their expertise is recognized not only in the country but also outside. There is a definite shift in evaluating Indian institutions amongst developing countries as resource centres for training their functionaries at various levels. While this may be a matter of satisfaction, the greater task before the institution working at various levels is to contribute effectively to the national system in their specific areas. The conceptualization of institutions like National Council of Educational Research and Training, National Institute of Educational Planning and Administration on one hand and that of District Institutes of Education and Training on the other and those of block resource centers and cluster resource centres in itself speaks highly of an evolving process of planning educational change aiming at reforms. The efficacy of these institutions would depend upon several factors. Obviously these would include infrastructural inputs including investments, a well thought out plan of action, delineation of programmes and strategies of implementation. In addition, the most significant component would be the quality of manpower provided to these institutions and the training imparted to these functionaries. The attitudinal change would be required not only amongst the grassroot level functionaries but also the planners, the implementers and those who train and orient functionaries at various levels. Teachers shall have to be visualized as reform implementers. They have to be perceived as knowledgeable professionals capable of sifting knowledge, generating knowledge, creating knowledge and disseminating knowledge. A futuristic vision of teacher education, which at present is masked by rigidity and inertia, shall not only have to be developed but also put to action. The very purpose of establishing institutions could be lost if these are not able to internalize a sense of pride and professional satisfaction in the tasks assigned to them. Every individual in an organization must feel privileged to have got the opportunity to serve there.

Institutions would require leaders capable of creating a new culture of work and attitude to achieve these objectives. The head of the institution has to be the person who is always eager to understand change, anticipate change and is willing to lead the change. This can happen only when this individual has the capacity to identify the correctness of the planned change along with a confidence in the strategy proposed to be adopted to make it effective. The most significant part is the basic understanding of the institution as the community. Their capabilities and a firm belief that the capabilities of individuals can be enhanced through motivation, support and partnership initiatives. The greatest of innovators rarely get functionaries all of whom are of their own liking and according to their expectations. Their contributions lies in having created professionals from among those available to them. Their success is also judged by their capacity to perceive innovations that could contribute in enhancing the efficacy of the system and could result into effective reforms. Essentially, innovations create values. Those who play the leadership role must understand the difference between reforms, change and progress. Reform refers to weeding out some undesirable aspects and substituting them with better elements. Change happens all by itself without any initiative taken by an indivisual. Progress is a purposive move towards a predetermined goal.

In the existing Indian teacher education system the leadership role is played by two distinct groups of people, the academic and bureaucratic leaders. In the system it is generally perceived that bureaucrats have invariably the upper hand. This probably has come because of the system of education and teacher education that India inherited from the British. To understand this duality, it may be worthwhile to consider the perceived difference between the academic leaders and the bureaucratic leaders.

Academic Leaders	*Bureaucratic Leaders*
Commands respect	Expects respect
Influences by example	Depends on Powers and Regulations
Innovates continuously	Manages practices
Understands what is wrong	Focusses on who is wrong
Participates in the professional tasks	Keeps aloof, expects compliance
Takes institutional management as an art	Takes institutional management as a craft
Is Affectionate and Empathetic	Evokes fear of authority and apprehension
Accepts challenges	Avoids challenges

Let it be well clarified at this stage that such attempts to categorize can only be indicative. There could be bureaucratic leaders with an academic bent of mind and an academic approach and vice-versa. Any sharp distinction between the two groups is neither possible nor desirable. Any study of a sample consisting of both the categories would indicate that a single individual may possess qualities listed amongst both the categories. The objective has to be that each should understand the other as the success of innovative efforts would depend upon how the policy makers and the implementers understand each other with clarity and empathy.

Evolving Future

Quality leading institutions are the backbone of every nation as they prepare and produce citizens who contribute in each and every sphere of growth and development of the nation. It is the institutions which inspire the individuals and convince them to unearth their capabilities and potentials. Every individual has infinite capabilities. The only difference between the most successful and an ordinary individual is that the former uses more of his latent capabilities and work harder than the later. The attitude building is nurtured and strengthened by institutions.

Institutions develop their own culture, credibility and level of social and professional acceptance. This in turn motivates them to contribute more and produce better. What attracts people on one hand and contributes to achieve institutional goals on the other is the way an institution functions. Needless to say, the aspects of learning community, collegial communities, caring communities, inclusive communities and inquiring communities become prominent and determine the totality of institutional efficacy and efficiency. Such institutions make every effort to identify how every individual can be put in a working condition where he/she can constantly grow and produce the maximum output. Such individuals could be of great help in institutional development.

Innovative ideas can emerge from any point and from any person. Every idea, howsoever simplistic, deserves thorough examination with care and caution and full sympathy. Many times institutional heads and leaders crush innovative ideas in the bud as it was not articulated properly or could not be presented properly. The key issue for the leader is to see the innovativeness of the idea in itself no matter how poorly it has been articulated or how poorly it has been presented. Once the newness or the novelty of an idea is appreciated, finer articulation can come later on.

While the professional development of the individual is the responsibility of both the individual and institution, the total professional development of the institution needs to remain in focus. Everyone needs to accept this responsibility. The leader is always characterized by the willingness to accept responsibilities for failures of others at any point and at every stage.

Effective institutions in future shall require being partners in creating, generating and disseminating knowledge. This requirement leads to its own strategies which will be very different from the existing ones in most of the cases. These would necessarily be very demanding. Hard work eventually succeeds in all circumstances and faith in individual capacity with care and support could place any institution on a much higher pedestal.

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Systems Management of Inservice Teacher Training through Open and Distance Learning

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Education and the Role of Teachers

Education is a process of human development and empowerment for the achievement of a better and higher quality of life. Societies commit themselves to providing basic education to all with an aim for developing healthy and progressive individuals. India committed itself to educate all children up to the age of 14 years and made it a constitutional obligation (Article 45). However, it could not be achieved within the stipulated time period due to magnitude and complexity of the task. The Education Commission (1964-66), the *National Resolution on Education* (1968), the *National Policy on Education* (1986) and its revised version (1992) reiterated Government's commitment towards Universal Elementary Education. These national efforts have also been strengthened and supported by international events like the Jomtien Conference, Delhi Declaration and the Dakkar Framework for Action.

It is true that enlightened, and empowered teachers alone can lead communities and nations in their march towards better and higher quality of life. Teachers act as Trail Blaizers in the lives of learners. They develop cognitive, affective and pscycho-motor areas of learners' personality. Thus, teacher education, teacher development and teacher professional growth are important inputs to ensure quality in education. Indeed, teacher effectiveness is the core condition to ensure quality of education. Quality education is critically associated with quality teacher education.

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Teacher education in India has a history of nearly 180 years. As early as 1826 Hartog Committee recommended inservice training of teachers. Before Independence, teacher education was largely a one-shot affair which started and ended with initial teacher education. After Independence, inservice teacher education has gradually found its rightful place. It got further momentum based on the recommendations of *Education Commission* (1964-66), *National Education Policy (1986) and National Commission on Teachers* (1985).

Teacher Development

Teacher development is an on-going and a continuous process. It can be seen as a continuum of pre-service education, inservice continuing education, self-learning activities and institutional opportunities for teacher growth. The over-arching aim is to develop teacher effectiveness (Rajput and Walia, 1998).

Pre-service education is a process of professional induction to new teachers entering the teaching profession. It is a process of transforming a lay person into a competent and committed professional educator. Inservice education is offered on a recurrent basis in an organised manner by resource institutions like Colleges of Teacher Education (CTEs), Institutes of Advanced Studies in Education (IASEs), State Councils of Educational Research and Training (SCERTs), National Council of Educational Research and Training (NCERT), National Institute of Educational Planning and Administration (NIEPA), Indira Gandhi National Open University (IGNOU), and Central Board of Secondary Education (CBSE). Institutional facilities are also provided to teachers to upgrade their professional qualifications such as obtaining Master's Degree or Doctoral Degree in education, and in the form of attachments, study leave and sabbatical leave.

Inservice Teacher Education

The need for inservice education and training of teachers lies in the changes in educational structure, curriculum, transactional techniques, evaluation system, management process and teachers' desire to update knowledge. The professional survival and growth of teachers, at least in part, is related to the coverage, quality, content and delivery of inservice training programmes.

The major objectives of teacher education programmes are:

(i) Enabling the participants to understand the assumptions underlying existing educational policy curricula and syllabi.

(ii) Helping the teachers to develop necessary skills for effective transaction of curriculum.

(iii) Sensitising the participants about their role and function particularly in the context of new educational developments.

(iv) Familiarising the participants with the latest development in educational technology and techniques of pupil evaluation.

(v) Sharing experiences and ideas with the participants in order to obtain necessary feedback for further improvement in the educational system.

(vi) Familiarisation with planning and administration related subjects in respect of school/educational set-up.

Training of teachers working at the elementary level is a massive task. There are more than three million teachers teaching in primary and upper primary classes in India. As per national requirements a teacher teaching elementary classes is expected to have 12 years of schooling (senior secondary) followed by two-year teacher training. State-wise picture of trained primary teachers is uneven, presenting four categories of teachers.

- Teachers who have the required academic qualifications as well as teacher training of two years.
- Teachers who have the required academic qualifications but not two years' teacher training.
- Teachers not having the required academic qualifications but having two years' teacher training.
- Teachers having neither the required academic qualifications nor the required training.

Thrust Areas of Inservice Education

Open Distance Learning (ODL) can be used suitably for the above last three categories of teachers in all the 1200 Primary Teacher Training Institutes (PTTIs).

Inservice education is needed for various categories of serving teachers; for unqualified, under-qualified, untrained as well as for the qualified teachers. For unqualified teachers who do not have requisite academic qualifications, inservice programmes may be provided to them mainly as academic inputs. Untrained serving teachers need to be provided initial training. In the Indian context this number is substantial in north-eastern states like Sikkim, Nagaland, Assam, Meghalaya. Another category of teachers can be called under-trained as they do not have the required qualifications needed for their job. These teachers also need inservice training. Qualified and trained teachers also need inservice training as they need updating on new inclusions in curriculum or new evaluation processes or new policy initiatives. The generic function of inservice education are :

- Update teacher's competencies in issues relating to methodology and evaluation.
- Upgrade content competencies of serving teachers.
- Orient teachers to their new roles and technologies.
- Provide opportunities for unqualified or under-qualified on-the-job teachers to update and upgrade their knowledge.

Inservice Models

Training of teachers using different methodology is an integral part of teacher education in the Indian education system. One can identify four major strategies by which teacher training especially inservice teacher training programmes have been organised. The different models are:

- Face-to-face institutional model
- Cascade model
- Open distance education model
- Media-based training model

Each model is explained below briefly.

Face-to-face institutional model: In the Indian context District Institutes of Education and Training, Colleges of Teacher Education, and Institutes of Advanced Studies in Education use this model by offering inservice training programmes. Schools are instructed through Inspector of School or District Education Officer to depute a required number of teachers to State Council of Educational Research and Training, District Institute of Education and Training, College of Teacher Education, Institute of Advanced Studies in Education where they receive inservice training of various duration on various aspects. The limitations of this approach is that the teachers have to leave their place of work to come to the training institution. This situation creates impediments to the school functioning. Another limitation of this approach is that only a few teachers can be trained by this approach.

Cascade model: This model was extensively used when Programme of Mass Orientation of School Teachers (PMOST) and Special Orientation Programme for Primary Teachers (SOPT) programmes were launched. In this model training was organised at three levels: at the level of key resource persons, at the level of resource persons, and at the level of teachers. The key resource persons, of each state were trained by the NCERT. They in turn trained resource persons in their states and at the third level, resource teachers trained teachers. The advantage of this model is that a large number of teachers can be trained in a short duration of time. However, this model has its limitations. Knowledge and information passed on at the first tier, get diluted when teachers are trained at the third tier. Thus, there is a considerable transmission loss. Training effectiveness is adversely affected.

Distance education model: This model has been in vogue since early sixties. Training of teachers have been conducted both for pre-service programmes as well as in-service programmes. Inservice programmes have been offered by IGNOU, NIEPA and NCERT. SCERTs and DIETs are yet to offer distance education programmes for inservice teacher education. Looking to the advances in information and communication technologies it is accepted that this model should be fruitfully utilised for inservice education of teachers in various programmes launched by SCERTs, IASEs, CTEs and DIETs.

Media-based inservice education model: Media-based inservice education was launched in India for the first time during Satellite Instructional Television Experiment (SITE) in 1975-76. Media-based distance education has also been a feature of Programme of Mass Orientation of School Teachers as well as Special

Orientation Programme for Primary Teachers. Central Institute of Educational Technology (CIET), a constituent unit of the NCERT prepares video programmes for teachers as well as for primary school children which are telecast through *Gyan Darshan*, an educational channel that telecast educational programmes 24 hours a day, covering all aspects of education, primary, secondary, teacher education, adult education and higher education.

Indigenous Experiences

Indian teacher education gained tremendous insight into problems and issues relating to teacher education especially in the seventies and the eighties, when efforts were made to universalise elementary education and a large number of new schools were opened. Alternative approaches of non-formal education experiments and open schooling were launched in 70's and 80's with the result that many untrained teachers were inducted in the system who needed training. Thus, various models of teacher training were explored and designed. Different agencies developed different models, for example, *Eklavya* of Madhya Pradesh, and *Lokjumbish* of Rajasthan developed their own models of teacher training. Both of these, and others also developed models taking local-specific needs and requirements in consideration. It can be safely said that there is no educational problem, which does not exist in India, and there is no innovation, which has not been tried to tackle a problem in some part of the country. With diversified nature of problems and various innovations launched, India has developed a core internal expertise group with regard to teacher education. Some of the experiences gained under teacher education can be summed up as under:

- Certificate in Guidance Porgramme (IGNOU — NCERT)
- District Primary Education Project and Distance Education Programme (DPEP-DEP)
- Programme of Mass Orientation of School Teachers (PMOST, NCERT)
- Special Orientation Programme for Primary Teachers (SOPT, NCERT)
- Interactive Video Project (NCERT)

- Staff Training and Research Institute of Distance Education (STRIDE, IGNOU)
- Bachelor of Education Programme (B.Ed, IGNOU)
- NOS Project for Training of Open School Personnel
- Lokjumbish and *Shiksha Karmi* Project

Management of INSET by ODL

Management of inservice teacher education and training (INSET) by Open Distance Learning (ODL) is an area that requires insight into both teacher education as well as open distance learning. It takes into account issues relating to teacher training like, pedagogy, curriculum, interactivity between teacher and students, classroom management, etc and issues relating to ODL schools' cost-effectiveness, quality of study materials, student support services and many other things.

In the Indian context, the situation of teacher education by open distance learning has had an interesting history. With the advent of correspondence education, in sixties some universities started B.Ed through correspondence education. Some universities made provisions for quality instruction material as well as for adequate personal contact programmes, but there were also universities that did not provide appropriate reading materials, nor did they provide contact programmes and student support services. These universities were largely guided by making a quick buck and making the whole enterprise a profit-oriented and commercial one. This approach was regulated by National Council for Teacher Education (NCTE) during the years 1995-1999. The NCTE in collaboration with Distance Education Council (DEC), IGNOU and University Grants Commission (UGC) evolved a formula which was to be followed in all institutions offering teacher education through distance mode. The major elements of the formula were the following :

- There has to be specified number of staff who would look after production of material, dispatch of material, organisation of contact programmes, internal evaluation, organization of practice teaching, organisation of school experiences, etc. The staff strength of institution will also depend upon the number of students enrolled in the course.

- The institution will prepare self-instructional material with appropriate support of audio-video programmes. The quality of materials will be reviewed from time to time by a composite team to be constituted by NCTE, UGC and DEC, jointly.
- The institution will ensure adequate number of schools where practice teaching can be arranged.
- The institution will provide study centres to offer academic counselling to students.

On the recommendation of DEC, UGC and NCTE many universities closed down their B.Ed courses, as they did not find it cost-effective. Others followed the UGC-DEC-NCTE guidelines and continued to offer B.Ed courses through open distance mode. The prestigious university IGNOU is also offering B.Ed through distance mode and a Diploma in Primary Education (DPE).

The overall view of INSET by ODL can be presented as follows:

- Institutions may offer training both by face to face and open distance learning mode. In case they offer it by ODL, they must follow DEC-UGC-NCTE norms.
- Training of elementary (basic) teachers is for two years. In almost all cases it is by face to face conventional mode. However, wherever there are untrained teachers already employed they may be trained by ODL. Such recommendations have been made by NCERT as well as by IGNOU.
- Those institutions offering teacher training by ODL should provide quality instruction material and adequate student support services. As far as possible printed self-instructional material should be modular in nature and must be accompanied by radio and television programmes.
- Even in face-to-face institutions information and communication technology needs to be utilised by all teacher education institutions to make teacher training programme more efficient.

Need for Inservice Teacher Education by Open Distance Learning

Almost all countries have a significant section of teachers who are untrained and are already in the job. For such teachers it is easy to undertake initial inservice teacher education programme by ODL as it does not involve leaving the job and becoming full-time students. Inservice teacher education through ODL also provides an opportunity to those teachers who are initially trained but want to update their knowledge in some of the new fields. New areas could be with reference to new topics introduced in the curriculum, new pedagogical techniques, new evaluation techniques and new innovative classroom management practices.

In case INSET by ODL is introduced the first step should be to orient teacher education in various aspects of ODL like:

- Understanding scope and concept of open distance education.
- Developing instructional design relevant to open distance learning.
- Developing instructional materials which are modular and self-instructional in nature using course team approach.

Developing Institutional Capabilities

Inservice teacher education by ODL is cost-effective, flexible and teacher-friendly system, but many institutions lack facilities essential for ODL. One has to think about what institutional capabilities should be developed so that effective and efficient INSET by ODL system could be put in place. Keeping in view teacher training the following capabilities are critical :

- Developing a mechanism for enrolling teachers, keeping in view their convenience, round the year.
- Establishing efficient support system for inservice teacher trainees where academic and administrative guidance and counselling could be provided.
- Putting in place efficient mechanism for organising practice teaching.
- Putting in place mechanism for supervising practice teaching of suitable duration.
- Putting in place efficient mechanism for guidance in lesson planning.

- Developing mechanism to deliver instructional material to teachers on time.

Developing Staff Capabilities

Staff capabilities will have to be developed in the designated ODL institution in the following areas:

- Developing capabilities towards development of self-instructional modules initially, training programmes may be organised for the perspective writers/recourse editors. International assistance may also be thought of in such training workshop.
- Developing in-built quality assurance mechanism for development of self-instructional models. For example, a course team approach may be adopted, designating a team to develop a module. Such a team would include graphic artists, instructional technologists as well as subject experts.
- Developing mechanism to evaluate teacher/trainee's assessment work; that is training evaluators in how to provide positive feedback/comments and how to cut down turn-round time.
- Developing competencies in production of radio, television and computer programmes which could become part of the learning package.

Establishing and Strengthening Dual Mode Institutions

Dual mode institutions have an edge over single mode institutions. In India there are about ten universities fully dedicated to open distance education and nearly sixty universities which offer education through distance mode. Dual mode institutions are easy to establish and can work more efficiently. Important thing to take note is to make adequate finances available to them. There is need to provide flexible funding to ODL institutions so that ad hoc activities relating to practice teaching, which are fluid in nature, can be properly handled. The finances should cover four critical aspects essential for running ODL programmes :

- appointment of professional staff;

- mechanism to develop media support materials;
- networking with schools to provide practice teaching facilities; and
- networking with master teachers, administrators to supervise lesson planning and practice teaching.

Strategy for Setting up National Programme of INSET Inservice Education by ODL.

Looking to the point that trained and enlightened teachers are the most important inputs to education, it is imperative that national programme for INSET by ODL may be set-up. Some of the strategical issues could be as follows :

- A quick survey may be made to identify how many teachers do not have initial teacher training required for equipping them to teach elementary classes. In the Indian context north-eastern states have a large number of untrained teachers and a need-based model is in operation.
- There are many critical areas in which recurrent continuing education is needed for teachers who are already trained and have a certificate or diploma that entitles them to teach at the elementary (basic) level. However, all teachers need to be exposed to new topics in the curriculum, new concepts of evaluation or new pedagogies, e.g. teaching multiple classes or promoting action-activity-oriented teaching.
- Institutions offering INSET by ODL programmes should be properly oriented towards evaluation. They should organise evaluation of practice teaching and theory separately. Evaluation of practice teaching should proceed evaluation of theory by a month or so. Evaluation of both practice teaching and theory should not be a one-shot affair. It should be continuous and comprehensive touching all aspects. For example, in practice teaching, attention may be given to teacher trainee's self-confidence, teacher-pupil rapport, clarity of presentation, pace of presentation, subject mastery, communication skills, classroom management skills, blackboard work, and effective use of teaching aids.

- Evaluation of theory could be both internal (25%) and external (75%). In addition to session-end evaluation, there ought to be two or three sessional tests, as well as evaluation of assignments.
- INSET by ODL programme should also make sure that besides evaluation of the cognitive aspects, teacher trainees get evaluated on non-cognitive aspects too. Some of the characteristics that need to be evaluated are commitment to teaching, sensitivity to students' problem and needs, self-poise, self-confidence, hand work, etc.

The national campaign for Education for All (EFA) known in India as *Sarva Shiksha Abhiyan* (SSA) has set 2003 as the target for access to EFA (children age group 6-14), completion of five years of primary education by 2007 and completion of eight years of elementary schooling by 2010. In this bold venture a comprehensive inclusive approach has been thought of which compliments formal education with non-formal education and regular schools with distance teaching. Enrolment capacity of open learning system can be expanded if it spreads to district and block levels and provide academic as well as vocational opportunities. Such an approach would give greater prominence to open distance education, which has inherent potentialities to promote universalisation of elementary education.

Global Issues and International Collaborations

In this paper an attempt has been made to see close links between education, teacher education and open distance mode. The argument that has been built in this paper is three-fold; education is a crucial input for a nation's social, cultural and economic development; that teacher education is a crucial input to education; and that open distance mode is viable and potential strategy to ensure multifarious dimensions of teacher development and professional growth.

Taking concrete illustrations from India, this paper has gone into various teacher training models and has given indigenous experiences which have been success stories. One of the lessons that we have learnt is institutional networks and institutional collaborations work and provide rich dividends. It has also been seen that achievements can be speedier if national collaborations are supported by international organisations. Generalising this point, one can foresee a chain of issues that form the base of promoting teacher education through open distance mode. Some of the issues and activities related to the issues are as under.

Undertake Comprehensive Need Assessment Surveys and Studies: Any country that proposes to offer teacher education programme through open distance mode has to undertake a comprehensive Need Assessment Survey. This has to be with respect to primary school teachers, elementary teachers, secondary and senior secondary school teachers, supervisors, administrators, Head-Masters and Principals. Its coverage would include as initial teacher education as well in-service, recurrent teacher development programmes.

Programme Design and Material Development: The second activity will be to design programmes, keeping in view the specific needs. Programme planning should touch all aspects that would need joint and collaborative thinking by all partners. It would include listing and specification of objectives, content, learning outcome, transactional strategies and evaluation. Programme planning should also include budget required for the programme as well as time frame in which it would be executed.

Material development in each programme is itself a massive task and needs to be undertaken with caution and care, keeping in view the potentiality of information technology in each country.

Monitoring and mid-course corrections: The third aspect that needs to be thought of relates to actual launching of the programmes, their monitoring mechanism and mid-course corrections. A system needs to be evolved in consultation with the beneficiary states.

Institutional Capacity Building: Side by side to the programme implementation , efforts to build institutional capabilities need to be undertaken. Initial attempts to link institutions electronically may be the first step. Development of educational management information system may be another task on the priority list as it would help the policy makers to take appropriate decisions based on available information.

It is essential to keep in view that programmes cannot be launched only by goodwill or pious hopes. They require budget and funds to run. Some Programmes can be funded by the State Governments, some can be partially supported by generating own resources, some can be made fully self-sufficient, some may be provided seed money to start with.

Staff Capacity Building: Along with institutional capacity building, staff capacity building should be undertaken. Advance training to staff may be organised using various strategies of attachments, study visits, in-country and on-site (in-school) training programme. International agencies may come forward to undertake staff capacity building programmes. Bilateral networks and twinning of institution may also be thought of in this stage.

Research Inputs: It would be appropriate to build research activities into the system right from the beginning. Teacher development programmes through open distance mode may undertake specific researches to promote effectiveness of the programme or to explore how the programme could reach to difficult target learners. Research on suitable segments of information technology and their potential contributions may also be taken up and linked with cost-effective analysis.

As discussed above, open distance methodologies and technologies can be used for inservice teacher education in three ways:

It can be addressed what World Bank (1995) has called as unserved groups, i.e. teachers who are working in distance, disadvantaged, far-off difficult technical terrains, it can make teacher education a lifelong learning aspiration for all teachers, and it can use open distance technologies to promote creativity, consciousness, quality, concern and commitment among teachers. Thus with efforts in using open distance technologies the trend of lifelong learning may be encouraged and it can specially target at the disadvantaged teacher group.

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Improving the Quality of Secondary Education

The Role of Boards of Secondary Education

D. V. SHARMA*

The history of secondary education in India began with the attempt of the British Government to systematize education in the country through Woods Despatch in 1854. The first universities in India came into being in 1857 and these universities also conducted the examination for students who completed 10 years of schooling and this examination was termed as matriculation examination. For a fairly long time, the universities controlled this examination because basically this provided the students entrance to higher education.

The first Board of Secondary Education was established in Uttar Pradesh in 1923, which was called Board of High School and Intermediate Education. It still continues to be called as such and, at present, it is the largest Board in the country which conducts examination for more than 3 million students annually. The Central Board of Secondary Education (CBSE) was first constituted in 1929 with its headquarter at Ajmer. This Board ultimately was reconstituted in 1962 and its headquarter shifted to New Delhi. The Central Board of Secondary Education (CBSE) is an All India Board. It basically was established to help the clientele who were supposed to move from one part of the country to another. In such an exigency, the students found continuity in education. It means that children of parents, whose jobs were transferable, were the main beneficiaries of this All India Board. It was, therefore, obvious that schools established by defence services and other all India services were affiliated to CBSE. The Government of India also created a network of Kendriya Vidyalayas (Central Schools) all over the country to help children of such employees. The CBSE, however, soon acquired the status of a model Board as it structured itself in a manner that quality of secondary education became its major concern. It has a strong academic division besides the usual divisions dealing with examination and administration. Consequently, many privately funded schools (independent schools) affiliated themselves to CBSE. Another Board which is of all India nature is the Council for Indian School Certificate Examination. It also has many well-known independent schools affiliated to it. The universities, by and large, continued to dominate the secondary education (Classes IX-XII) for a long time. In fact, most of the Boards came into existence after Independence.

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The secondary education, for the first time, was treated as an independent entity and worth an attention by the Government of India when it appointed the Mudaliar Commission in 1952 which submitted its report in 1953. It was this Commission which examined all aspects of secondary education and, for the first time, thought of treating this sector of education as terminal. It recommended changes in curriculum, introduction of technical education at secondary stage and improvement in examination system.

The conversion of All India Council of Secondary Education into National Council of Educational Research and Training (NCERT) in 1961 gave a fillip to the quality of secondary education. The curriculum, its transaction and evaluation system came in for serious attention because of creation of this apex body. However, prior to the establishment of NCERT, the Department of Extension Services established with various universities/training colleges did help in upgrading curriculum and its transaction considerably. Dr S. Bloom's interaction with Indian educationists helped in the improvement of evaluation system to a great extent.

After India attained Independence, Boards of School Education, which were termed as Boards of Secondary and Higher Secondary Education, were being progressively established by various State Governments. Most of the Boards were created by an Act of State Legislation and were mainly concerned with conducting secondary examination for the schools in different states in the country. With the creation of the Boards, secondary education received its identity for the first time. The movement for independence of secondary education, however, began with the Report of Mudaliar Commission. The period of secondary education was enhanced from 10 to 11 years of schooling as per the recommendation of the Mudaliar Commission in the various states. However, most of the Boards continued to have Class X examination as their main concern, which is now termed as secondary education examination. Some Boards, however, also took up the responsibility of Class XII examination, which is now termed as senior secondary stage examination. Many Boards continue to concentrate on the secondary examination and most of the universities were taking care of the examination at the +2 stage till the Report of the Education Commission 1964-66.

Secondary education was reorganized on the basis of the recommendations of Education Commission, popularly known as the Kothari Commission (1964-66). This Commission, for the first time, recommended that schooling should be of 12 years' duration and there should be a public examination at the end of Class X and the second at the end of Class XII. In fact, the Education Commission suggested Classes IX to XII education as part of the school system. The Education Commission was seriously concerned with the fact that school education needs to be treated as a separate entity and should not be dominated by the university system. It for the first time recommended that the Boards of Secondary and Higher Secondary Education should be termed as Boards of School Education and they should deal with the entire duration of the school education from Classes I to XII. The idea was to give school education a separate entity and also to ensure that the product of school education constitutes our middle level work force. In other words, it meant that secondary education should be treated as terminal and most of our students should be able to enter work force at the end of this stage.

As a result of the recommendation of the Education Commission, a National Policy on Education, 1986 was approved by the Parliament and, consequently, a process of restructuring of school education board along with its liberation from the dominance of the university system began. The process in a way still continues. However, in most of the states, the school system, i.e. education up to Class XII is now under the jurisdiction of the Boards of School Education.

It is important to point out here that although Education Commission (1964-66) wanted school boards to take up all aspects of secondary and higher secondary education, but in many cases, the school boards which are named differently depending upon their jurisdiction continue to be basically concerned with conducting examinations. In fact, some of the Boards are still named as Boards of Examination, particularly in the South. The issue of Boards being Boards of Education and not merely Boards of Examination had, in fact, made Government of India think of appointing a Task Force on the Role and Status of Boards of Secondary Education in the country. The setting up of this Task Force was part of the recommendations of the Revised National Policy on Education, 1992. As a consequence of this Policy, a Task Force under the Chairmanship of Prof. Amrik Singh and Prof. D.V. Sharma as Member-Secretary was appointed by the Government of India on 18 July 1995. The Task Force examined in detail the status of various Boards and the type of functions they were performing in relation to secondary/higher secondary education. It came to the conclusion that there are four types of Boards in the country:

1. Those which followed the Education Commission (1964-66) recommendations and took charge of the entire segment of school education, i.e. Classes I to XII. These Boards were named as Boards of School Education. For example, J&K, Punjab, Haryana, and Himachal Pradesh Boards of School Education are concerned with the entire school education system in their respective state. One would, however, like to restate here that their focus continues to be the quality of secondary education (Class X) and higher/senior secondary education (Class XII).
2. Boards of Secondary/Higher Secondary Education which are concerned with Classes IX, X, XI and XII. These Boards conduct external examination for Class X (secondary stage) and Class XII (senior/higher secondary stage). Most of these Boards are also concerned with curriculum and its transaction besides external examination. Central Board of Secondary Education, Council for the Indian School Certificate Examinations (both all India Boards), Uttar Pradesh, Maharashtra, Gujarat and Madhya Pradesh Boards are some of the examples of this type.
3. The Boards of Secondary Education which are entirely concerned with Classes IX and X.
4. The fourth types of Boards are the one, which are concerned only with Classes XI and XII. In many states, they are called Boards of Senior Secondary or Higher Secondary Education.

In fact, the term very often used is 'Council' by these Boards. For example, Assam Higher Secondary Education Council, Manipur Council of Higher Secondary Education, and West Bengal Council of Higher Secondary Education. They usually prepare students either for the general university courses or professional courses at the university level such as engineering, medicine, management etc. A list of the present Boards of School Education is given in the Annexure.

It would be necessary to point out here that an element of flexibility is being introduced by several Boards which allow students not to strictly select subjects from a particular stream, but have cross-stream selection of subjects, e.g. a student of science stream may take up art or music as a subject. This is in tune with international trends.

Many Boards now are concerned with the quality of secondary/ senior secondary education and, for this purpose, they are increasingly concerned with quality of their curriculum, its transaction and credibility of their examination system. In fact, COBSE, a voluntary association of all the 34 Boards in the country is helping them to interact among themselves and with the NCERT to upgrade the curriculum, teaching-learning methodology and improve the quality of their examination system. Another trend which is visible now is the introduction of continuous and comprehensive evaluation by some Boards. It is hoped that in due course the Boards would not entirely be concerned with examination as a means of ensuring quality of their products, but would also be concerned with improving the quality of curriculum and its transaction, besides paying attention to other aspects of a student's personality.

To help the Boards to assert themselves in improving the quality of education, it is important that they are empowered by the government and the community. The Boards in many states are part of the Directorates of Education and Director/ Commissioner of Education is, in many cases, also the Chief Executive of the Board (Chairman/President). In such a situation, the Boards cannot act in an autonomous manner to bring about the qualitative changes in school education, particularly secondary education. It is, therefore, important that the Boards are given necessary autonomy and the status of their Chief Executive is such that it can assert its authority in paving its way to improving the quality of secondary education. The Task

Force under the chairmanship of Prof. Amrik Singh has suggested that the chairman of the Board should of the status of a vice-chancellor and that his appointment should be through a serious process of selection and once appointed he should not be removed at the whims of the political masters. He should be allowed to complete his tenure unless there are serious charges under law of the land against him. The Government of India has, in principle, accepted the recommendations of this Task Force. However, it would take some time before the Boards can start asserting their autonomy in the interest of quality of secondary education.

In order to further strengthen the role of the Boards to improve the quality of secondary education, it has been suggested that the Boards should have a strong academic division, besides having their usual examination and administrative wings. It has also been suggested by the Task Force that an eminent educationist should head the academic division. The Boards should also be concerned with the quality of teaching-learning material and they should work in close coordination with the NCERT.

There are certain other issues which need to be looked into by various authorities to strengthen the Boards. The professional development of officers manning secondary education has not received due attention. We do have teacher training colleges but the inservice training of teachers has not been paid adequate attention. Boards need to look into this area. This will be possible if Boards have more interaction with NCERT, SCERT, colleges of teacher training and receive support from NCTE to strengthen the quality of teachers.

The Boards also need to concentrate on the quality of the principals/headmasters of the schools. A training mechanism has not yet been institutionalized by the Boards to impart training to the principals who are pillars of quality of secondary education and in a way extension of the Boards to the grassroot level.

Many Boards are now making full use of developments in the field of information technology, particularly to streamline the processing of their examination results. This is an extremely important development that has taken place. However, they also need to use information technology more consciously to strengthen curriculum transaction. The Boards are moving in this direction.

In conclusion, it may be said that the creation of boards has gradually helped secondary education to improve the quality of school education. However, the need is to professionalize these boards by developing a cadre of educational administrators who will strengthen this mechanism of sustaining the quality of secondary education.

ANNEXTURE

Boards of Secondary Education: Status and Date of Establishment

State	*Board*	*Year of Establishment*	*Administrative Set-up*
1	**2**	**3**	**4**
Andhra Pradesh	i) Andhra Pradesh Board of Secondary Education	1953	Part of the State Department of Education
	ii) Andhra Pradesh Board of Intermediate Education	1971	Statutory
Assam	i) Board of Secondary Education, Assam	1962	Statutory
	ii) Assam Higher Secondary Education Council	1984	Statutory
Bihar	i) Bihar School Examination Board	1952	Statutory
	ii) Bihar Intermediate Education Council	1980	Statutory
Goa	Goa Board of Secondary and Higher Secondary Education	1975	Statutory
Gujarat	Gujarat Secondary Education Board	1960	Statutory
Haryana	Haryana Board of Education	1969	Statutory
H.P.	Himachal Pradesh Board of School Education	1969	Statutory
J&K	J&K State Board of School Education	1965	Statutory
Karnataka	i) Karnataka Secondary Education Examination Board	1966	Part of the State Department of Education
	ii) Karnataka Board of the Pre-University Education	1970	Part of the State Department of pre-University Education
Kerala	Kerala Board of Public Examinations	1949	Part of the State Department of Education
Maharashtra	Maharashtra State Board of Secondary and Higher Secondary Education	1966	Statutory

State	*Boar d*	*Year of Establishment*	*Administrative Set-up*
1	**2**	**3**	**4**
Madhya Pradesh	Madhya Pradesh Board of Secondary Education	1959	Statutory
Manipur	i) Manipur Board of Secondary Education	1972	Statutory
	ii) Manipur Council of Higher Secondary Education	1992	Statutory
Meghalaya	Meghalaya Board of School Education	1973	Statutory
Mizoram	Mizoram Board of School Education	1973	Statutory
Nagaland	Nagaland Board of School Education	1974	Statutory
Orissa	i) Orissa Board of Secondary Education	1965	Statutory
	ii) Orissa Board of Higher Secondary Education	1955	Statutory
Punjab	Punjab School Education Board	1969	Statutory
Rajasthan	Rajasthan Board of Secondary Education	1957	Statutory
Tamil Nadu	i) Tamil Nadu Board of Secondary Education	1908	Part of the State Department of Education
	ii) Tamil Nadu Board of Higher Secondary Education	1982	Part of the State Department of Education
Tripura	Tripua Board of Secondary Education	1973	Statutory
U.P.	U.P. Board of High School and Intermediate Education	1922	Autonomous Body under the Department of Education
West Bengal	i) West Bengal Board of Secondary Education	1951 (Reconstituted in 1964)	Statutory
	ii) West Bengal Board of Higher Secondary Education	1929 (Reconstituted in 1962)	Statutory
All-India Boards	i) C.B.S.E., New Delhi	1962	Autonomous body under the Government of India
	ii) Council for Indian School Certificate Examination, New Delhi	1958	Registered Society
	iii) National Open School	1989	Autonomous body under the Governmen of India

Issues in Vocationalization of School Education

S.Z. HAIDER*

Introduction

The world has entered into the new millennium and the twenty-first century — an era of information and computer technology revolution, economic liberalization and globalization. At the dawn of the new millennium our country is facing many challenges, the foremost is the challenge related to the fulfilment of basic needs of its mega population, i.e. one hundred crores. Another major challenge is to face the global competitiveness. We, as a nation, are encountering with multiple problems such as poverty, malnutrition, ill health, illiteracy, unemployment, etc. Therefore, the picture is not a rosy one. We have to provide solutions to these problems, in order to make our people comfortable in socio-economic terms. The country is already on the march for developing science and technology manpower of international standards. But for a very large population the need is to provide appropriate vocational education and training as an alternative to general education, which will enable them to contribute to national development and enhance their quality of life. The skills and competencies acquired through Vocational Education and Training (VET) help in the development of total personality of an individual. VET is thus, linked with survival and well-being of the people and it could be instrumental in solving many of the stated problems using modern science and technology. International studies reveal that the social returns to vocational and technical education are high, so long as it is cost-effective and linked with job opportunities.

Vocationalization of School Education in India : Historical Perspective

In India the need for introducing vocational education at the secondary stage has been realized for almost over a century.

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From the time of Lord Wood's Despatch of 1854 there have been persistent recommendations to introduce vocational education at the secondary school stage. Several commissions and committees have stated that the secondary school stage must be considered not only as a preparatory stage for the youth to enter higher education but also as a terminal stage for those who might discontinue the studies and enter the world of work.

The recommendations of these commissions and committees regarding 2diversification of school system in general were not implemented and made little impact in this direction. However, the recommendations of the Advisory Committee (1936) (Report of the Abbot-Wood Advisory Committee 1936-37) resulted in the creation of a network of polytechnics in the country.

In the post-independence period, there have been a succession of commissions and committees who went into questions of reforms, and recommended vocational bias in certain courses and/or diversification to vocational courses. Establishment of multipurpose schools was the result of the recommendations of Secondary Education Commission (1952) (Report of the Secondary Education Commission headed by A.L. Mudaliar, 1952-53). The experiment however did not succeed.

In 1964, Education Commission (under the Chairmanship of D.S. Kothari) was set up to examine the entire educational system in the country keeping in view the national goals and improvement of quality of education. (*Report of Education Commission 1964-66 —Education and National Development*, Ministry of Education, Government of India — 1966). The Commission took a comprehensive view of the education scene in the country to define clearly the objectives of education in relation to the social, cultural and economic goals and aspiration of the nation. The most significant recommendation of the Commission is its observation on education being the major and vital tool for development and linking it to productivity.

The Education Commission had also recommended that Work Experience should form an integral part of general education. It clarified that the concept of work experience was essentially similar to the philosophy of Basic Education as propounded by Mahatma Gandhi and it might be described as a redefinition of his thinking in terms of a society launched on the road to industrialization. The Commission defined work experience as "participation in productive work in the school, in the home, in the workshop, on a farm, in factory, or any other productive situation".

When discussing the issues related to vocationalization of school education, it seems imperative to present here some of the excerpts of recommendations of Education Commission (1964-66) to have a proper perspective:

We visualize a flexible educational structure covering:

- *a primary stage of seven or eight years divided into two sub-stages, a lower primary stage of four or five years and higher primary stage of three years;*
- *a lower secondary or high school stage of three to two years in general education* ***or one to three years of vocational education;***
- *a higher secondary stage of two years of general education* ***or one to three years of vocational education.***

As we visualize:

- *at the end of the primary stage, a proportion of students will step off the school system and enter the working life (about 20 per cent);* ***some more will step off the stream of general education into different vocational courses, where duration may range from one to three years. (about 20 per cent); and remaining will continue further in the stream of general education (about 60 per cent).***
- *at the end of ten years of school education, a significant proportion of students will step off the school system and enter working life (about 40 per cent);* ***some more will step off the stream of general education and enter vocational courses where duration will be one to three years (about 30 per cent);*** *and the remaining will continue further in the stream of general education whose duration will be one and ultimately two years. (about 30 per cent).*

The National Policy on Education (1968) while taking into consideration the recommendations of the Education Commission made two significant recommendations; adoption of the 10+2+3 pattern and the institution of two distinct streams — academic and vocational, at the +2 stage. The Central Advisory Board of Education (CABE) in 1975, stressed the importance of the 2-year stage between the 10-year school and 3-year university education and reiterated that this stage should be regarded not merely as college preparatory but as a period for preparing an increasingly large number of school leavers for different vocations in life. Consequently, following recommendations were accepted:

(i) a national pattern of 10+2+3 education.

(ii) provision of distinct academic and vocational streams at +2 stage, the latter being largely terminal.

In 1976, the NCERT prepared a guide document "Higher Secondary Education and Its Vocationalization". It mentioned that vocationalization is a major transformation in education and cannot be achieved without important structural and functional changes in the whole set-up.

In response to these recommendations, a few states and union territories started the vocational education programme in 1976-77 in general education institutions.

Later on, a National Working Group under the chairmanship of Dr V.C. Kulandai Swamy (1985) reviewed the "Vocationalization of Education" programme in the country and made many recommendations covering financial as well as organizational aspects for the implementation and strengthening of vocational education programme.

The vocationalization of education was accorded high priority in the National Policy on Education (NPE), 1986. The Programme of Action formulated for implementation of NPE (1986), stated that Vocational Education Programme (VEP) for students after Class VIII will be introduced in schools on experimental basis. A Centrally Sponsored Scheme (CSS) of Vocationalization of Secondary Education was launched in 1988 for providing financial support to VEP. The scheme provides broad guidelines in respect of management structure, curriculum design, infrastructure development, vocational surveys at district level, school-industry linkage, apprenticeship training for vocational pass-outs and funding norms for VEP.

The Ramamurti Committee (1990) while reviewing the NPE (1986) recommended "Vocationalization for All" for the secondary school students from Classes IX to XII covering 4 years with a curricular mix of academic and vocational subjects. The revised Programme of Action (1992), suggested two modifications: (i) reset the target of diversification of students in vocational stream at +2 level to 10 per cent by 1995 and 25 per cent by 2000; and (ii) introduction of Generic Vocational Course for academic stream students at +2 level.

Implementation and Evaluation of VEP

With the implementation of Centrally Sponsored Scheme (CSS), 1988, the Vocational Education Programme (VEP) was introduced practically in all the States and Union Territories. As per the scheme, the schools offering vocational courses should have enough infrastructural facilities for effective implementation, or should offer the course in collaboration with a nearby resource institution or organisation, which has the requisite facilities. Provision for on-the-job training (OJT) has been greatly emphasized in all these courses, especially those which require field training to sharpen practical skills.

The Centrally Sponsored Scheme (CSS) has been in operation for the last twelve years. There had been some rethinking regarding funding to VEP by Central Government, and as a consequence of which flow of funds from Central Government to State Governments was stopped which adversely affected the implementation of VEP. Fortunately, after a couple of years, the funds were again being provided by the Central Government for sustaining and promoting VEP. There have been ups and downs in the implementation of VEP, yet over the years, the enrolment in vocational courses in general has shown an upward trend.

Presently, it is reported that about 4 lakh students are enrolled in vocational courses at +2 level, which are being implemented in about 5,657 higher secondary schools. In all, about 160 vocational courses of two years' duration are being offered. These courses cover different areas of occupations which can be broadly categorized under Agriculture, Business and Commerce, Engineering and Technology, Home Science, Health and Paramedical and Humanities, Science and Education.

The VEP during the course of its implementation has been regularly evaluated, through various agencies and organizations, informally and formally. Two external agencies were specially assigned the task for evaluating the Centrally Sponsored Scheme of Vocationalization of Secondary Education by the Ministry of Human Resource Development, Government of India and their reports, Operations Research Group (ORG), 1996; and Centre for Research, Planning and Action (CERPA), 1999 throw light on the strengths and weaknesses of the scheme. While discussing shortcomings of VEP, many factors responsible for it have been identified — like weakness in its implementation, lack of management structure, shortage of teachers, non-availability of instructional material, inappropriateness of examination system vis-à-vis requirement of objectives of vocational courses, absence of school-industry linkage, etc. Some of the points, which emerge from these reports that cost reflection on the effectiveness of VEP are:

- the proportionate share of vocational students (at +2 level) vis-à-vis total enrolment at the higher secondary stage is only about 5 per cent (a significant departure from the target set — 10 per cent by 1995 and 25 per cent by 2000);
- as high as 38.3 per cent of the vocational pass-outs were pursuing higher studies (many in general degree courses) and only 28 per cent were employed/self-employed;
- low priority is being accorded to vocational education by most of the states as compared to the other programmes.

Contemporary Issues and Challenges

It was in 1966 when the Education Commission submitted its report in which the need for vocationalization of education was greatly emphasized. It had worked out a twenty-year perspective for vocationalization of education — in terms of the roles that various sub-systems concerned with vocational education and training had to perform and the targets that needed to be achieved. It took nearly twenty years for plans and programmes to take off. And implementation has continued to remain unsatisfactory despite the priority given to the programme by the Central and State Governments.

During these years, education system has continued to expand at all stages without taking into consideration the absorptive capacity of the economy for graduates that become available each year. There has, therefore, been an increasing incidence of unemployment among the educated. Between 1971 and 1991 the number of educated persons on live register of employment exchanges increased more than ten times. This situation will further aggravate as the demand for secondary and higher education is going to increase enormously, particularly with the introduction of Universal Elementary Education.

Anticipating this situation, the Education Commission (1966) had recommended adoption of some definite policy of "Selective Admission" in general education at +2 stage, and expansion of vocational education programme to overcome the imbalance between the development of general and vocational education.

Some of the contemporary issues and challenges related to vocational education are presented here.

Vocational Education and Employment

The purpose of starting vocational courses was to prepare students for gainful employment, wage as well as self-employment. As per the evaluation reports, mentioned earlier, only 28 per cent of vocational pass-outs were employed/self-employed. Many factors are responsible for such a state of affairs. These factors have been thoroughly discussed in many fora and reports. However, a few observations are made in connection with this situation:

- The infrastructure facilities available in vocational institutions, in general, for skill training leave much to be desired for various reasons;
- There is no system of job placement or career guidance available to the vocational students in most of the states. As against this, there are provisions for Placement Cells in most of the polytechnics; manned by Training and Placement Officers.
- The second purpose of providing vocational education at +2 level was to divert students from academic stream and reduce pressure on higher education system. As reported earlier, 38 percent of the pass-outs from vocational stream were pursuing higher studies. This is pointed out as the failure of the scheme to reduce pressure on higher education. From students' point of view, it can be argued that they have only two alternatives — getting employment or pursuing further education. The third option is a state of 'doing nothing', i.e. remaining unemployed.

It is this third option — the state of 'doing nothing', which is a matter of great concern and needs some serious thinking for planning for a comprehensive educational system. The situation is not only applicable to vocational pass-outs; but is rather much more serious in case of students passing out from other programmes, particularly from general academic schools and university programmes. This can be appreciated in view of the relative enrolment in VEP as compared to general academic courses. Enrolment at present in vocational stream is only 5 per cent of the total enrolment of students seeking admission at +2 stage, which itself is hardly 30 per cent of the total enrolment in schools every year.

Inspite of current dismal performance of VEP, there is no alternative to vocational education, as the sheer number of youths requiring some form of employment (wage or self) is enormous. The working force of India constitutes 36 per cent of the total population. The organised sector both public and private, employ only 7.82 per cent of the working force. The remaining working force is either in unorganized sector or is unemployed. Employment is the key factor for social cohesion, peaceful and harmonious environment in the country. Gainful employment to the youth at the early age of about 20 contributes significantly in the reduction of unrest, frustration and crime.

Through properly planned and effectively implemented vocational education, there is a hope to achieve social cohesion and peaceful environment to live in, by enabling them have some useful employment for sustainability.

Vocational Education and Human Resource Development

It is a widely accepted fact that Human Resource Development (HRD) plays a crucial role in the development of a nation. Those countries which have developed their people by investing in sectors such as education, health, science and technology have achieved considerable success. Most developing countries, on the other hand, due to constraint of resources tend to make human resource development choices haphazardly rather than in a continuous and planned manner; especially in terms of identifying human resource sectors and target groups and in choosing appropriate processes. The concept of HRD as discussed by Rao (1997) includes both — the process of development of peoples' competencies, which may include knowledge, skills, attitude and values; as also enabling them to apply these competencies to improve their own lives and those of the others. When we analyze the situation our country is facing, and apply the HRD concept to our school-going generation, the only remedy or alternative visible is to go for vocationalization of school education in a big way.

As per 1997-98 data, India has one of the largest educational systems in the world — more than 0.6 million primary schools, about 0.185 million upper primary schools, more than 0.1 million secondary and higher secondary schools, about 230 universities, more than 7000 colleges of general education and about 2000 professional colleges. About 20 per cent of India's population is in different stages of the educational system, 175 million at the school stage (Classes I to XII) and about 7 million in higher education. The data also shows that on an average, out of every 100 students enrolling themselves in Class I, about 39 drop out between Classes I to V; 55 drop-out between Classes I to VIII and 70 drop-out between Classes I to X. Out of those, who seek admission in Class XI, less than 10 per cent go for higher education. The magnitude of problem facing us can be appreciated if the percentage is converted into absolute numbers — with 2 per cent of the total population seeking enrolment in Class I every year (growth rate of population is taken as 2 per cent), the number of youths who leave schools between Classes I to VIII is approximately 10 million and between Classes I to X is 14 million. Quite a large number leave between Classes X and XII.

It is obvious that a very large number of children enter the world of work during their school age; either by choice or by force of circumstances. The situation cannot, for a long time, be ignored simply as a case of school drop-outs. The problem has to be seen in the perspective of human resource development. This group of young people over the years will be making the large workforce whose services will be used in different sectors of economy. They being unskilled, the quality of services provided by them to the people at large are going to be poor and below standard resulting adversely the quality of life of the people in general.

Providing this target group skills and competencies which may create opportunities for their employment (wage or self) and in turn improve their quality of life as well as that of others, is a major concern.

The National Curriculum Framework for School Education (2000) has considered this issue in its totality, under the provision "Vocational Education for All". It has not only taken into consideration the school-going students and providing to them some form of vocational education, but also emphasized the need for creating opportunities for developing employable skills to other target groups — out-of-school youths/adults, semi-skilled and unskilled workers, and other disadvantaged groups — women, scheduled castes, scheduled tribes and physically challenged persons. In a broader perspective, it has proposed work orientation of school education in general, through the programme of Work Education at the elementary stage, Pre-vocational at secondary stage and Generic Vocational Course for academic stream. In addition, the provision for separate vocational stream at +2 level has been kept. The strategy suggested includes modular vocational courses with built-in flexibility, so that facilities created may be utilized for different target groups also. In addition, the recommendation of the Education Commission to provide vocational education courses, even to students after Class VIII needs serious consideration.

The success of the proposed scheme will however depend on the availability of resources, commitment of policy-makers, implementers and other stakeholders in the vocationalization of school education and its significance for human resource development.

Vocational Education and Issue of Relevance

The evaluation reports briefly discussed earlier have reported that VEP in most of the states is not attracting students. The courses offered, it was expected, will be need-based, identified on the basis of manpower need assessment through district vocational surveys. As reported, except a few states, and, even within these states, proper survey to identify manpower requirements were not conducted. And even where they were conducted, the findings were not taken into consideration while identifying the courses. In addition, most of the schools are offering a fixed number of vocational courses — 3 or 4; and all these courses are of two years' duration. Apparently there is a mismatch between what is needed and what is being offered. It needs to be mentioned that the concept of Vocationalization of Education and setting targets of diverting 10 per cent or 25 per cent to vocational stream, implies that the vocational courses have to cater to the local needs of the community. In the absence of pre-vocational courses at Classes IX and X, students after passing Class X find themselves in a situation where they have to choose a course without having any knowledge and understanding of its significance and utility. Schools have not yet established any career guidance system, nor any mechanism has been established to determine students' aptitude and interest. In such situations, .for students the best choice is to go for the courses where he finds some familiarity — the academic courses in the areas of arts, science and commerce. This process gets more impetus as the vocational stream and academic stream are offered under the same roof. With the advent of information technology and globalization and liberalization of economy, there is euphoria in the country to highlight the issues related to them only, as a result the needs at local level are being neglected.

There is no two opinion that information technology is coming in a big way; having its impact on the lives of people in general. Use of computers is to be expanded as its impact is being felt practically in most of the occupations. Still in planning for vocational programmes, judicious considerations have to be given to globalization as well as localisation issues. We have to remember that vocational programme has to cater to the needs of millions of youth, and that skilled persons are needed to provide services in a variety of socio-economic sectors — agriculture, business and commerce, engineering and technology, home science, paramedical, etc. Ninety per cent of such services are in unorganized sector; seventy per cent of population is living in rural areas; thirty per cent of people live below poverty line, etc.

Planning for vocational courses, therefore, needs to be done at micro level; and has to be integrated with district or block level developmental plan. Actually, within a district itself, there are great disparities; and as the current trends are, block level development plans are preferred. Relevance of vocational courses if planned at that level, can be easily established and will be visible to the parents and students also.

The other related considerations, in establishing relevance are that course should match with the aspiration, aptitude and interest of students. This will be possible if a variety of vocational courses in a flexible mode are made available. What is, therefore, required are modular courses, covering a variety of competencies and skills with provision that a student can choose whichever course he likes, or he is capable of doing. These courses can then be offered not only at X+ level but even at a lower level also, say Class VIII+ level.

The VEP prepares skilled manpower, which is suitable for the economic sector. It is, therefore, necessary to know the kind of skills/competencies that are required by the economic sector/ industry by involving them at various stages of curriculum planning from the initial stages. The curriculum transaction through appropriate methods prepare the manpower with desired skills and meet the requirements of the industry/economic sector.

Vocational Teachers

Teachers occupy a pivotal position in implementing vocational education programme. The present VEP in schools is suffering because of the shortage of properly trained vocational teachers. Many states have not appointed regular teachers in spite of the fact that the programme has been running there for more than ive years. There are also some inherent problems in providing vocational teachers. Where the VEP is running in general schools, only one or two teachers are provided for a specific course. As a result, only a few courses within general schools are offered requiring only a limited number of teachers and even they are recruited in many cases on a part-time basis.

The recommendations of the Education Commission and other committees that followed were, that a large number of courses be offered based on manpower needs, to enable students to choose courses of their interest and aptitude. This is, therefore, not happening. Secondly, a vocational course in general, should have its own half-life. After running a course for a few years, the manpower requirement is fulfilled for which the course was developed and further running it will be counter-productive. New courses based on new demands (demand-driven) or based on the proposed development (development-driven) will be required. A dynamic process in curriculum planning has to be built in the vocational programmes. However, frequent replacement of regular teachers is a difficult proposition. A system of training and retraining as a regular staff development activity is required. Teachers of VEP have to act more as Managers of Learning, rather than simply as classroom teachers. As managers, they have to be aware of the market-requirements, act accordingly and manage community resources to provide learning opportunities for their students.

Within the vocational schools, therefore, there is a need to have two sets of teachers to provide the training. The first category is to provide the theoretical part and to manage over-all implementation of the course, and the second category for the practical work and for skill training. Their training and qualifications, therefore, will differ according to their functions. The first group should be a regular teacher and should be a post-graduate or equivalent in the special area with a degree in teacher training (vocational). Since, at present there is no teacher training programme for vocational teachers, opportunity to acquire the degree through in-service teacher training programme be provided. These teachers will not only be responsible to provide the theoretical and practical inputs in the special vocational areas, but will act as managers of learning. It is the second role, which they have to perform effectively and efficiently. For this, they will be required to manage community resources — human and physical, for providing the necessary learning opportunities to the vocational students. Establishing linkage with industries/ enterprises will be part of this exercise. In the course of their service, these teachers need to be provided on-the-job training by placing them in the industry or enterprise for one or two months, every three to five years.

The second category of teachers will be required for practical work, skill training and to provide on-the-job training in a simulated or real life situation. These teachers will be like instructors, having formal/informal practical experience and should have worked for at least three years in actual field. They can be appointed on a regular basis or on a part-time basis; in the second case they may be the master craftsmen from the community. A possibility of asking the master craftsman to start his/her enterprise within the schools and use it to provide services to the community while at the same time using the facilities to impart on-the-job training to the vocational students should also be looked into as an alternative.

Resource Constraints

Most of the developing countries have limited resources while challenges to be met are enormous. As a result, even to meet the routine financial requirement of any sector is sometime difficult. In spite of the fact that education has been accepted as major instrument for a country's development, it remains low in priority on the government's agenda. The situation in India is not much different. It cannot, however, continue in this way any longer, if we want to transform "developing India" into "developed India". The education challenge no doubt has become formidable because of earlier neglects. The economic and social costs of such neglect of education are enormous and we have already paid heavily for such neglect. The Government has already set its priority and that too very correctly, i.e. Universalization of Elementary Education. The other sector of education, where generous investment is needed is Vocationalization of Education, which enhances employability of a large number of people and is thus related to economic development. However, realizing the constraints of resources, it is necessary that instead of making half-hearted efforts and providing scattered resources for many sectors, a focussed approach is required. The problem of number of students to be dealt with is already discussed in previous sections. With the future vision in focus, we have to ensure that the new generation gets all that it requires and does not face the problems, which the earlier one is facing due to neglect in education. As such, facilities have to be created in all schools — primary, secondary and higher secondary — to ensure effective implementation of work education programme, pre-vocational and generic vocational courses; as well for vocational stream at X+ level. Providing resources to all these institutions, particularly those in rural areas is at present a rather impossible task. Instead, generous investment at one centre to offer variety of training facilities will be more effective rather than providing inadequate facilities in a number of schools. Vocational Education and Training Centres (VETCs) should, therefore, be established at least one in each block of a district, in a phased manner, to begin with. These VETCs can then be utilized for vocational training of students from a cluster of nearby schools. VETCs themselves can offer vocational training courses to other target groups also — especially out-of-school girls, school drop-outs and unemployed youths. At other places, networking at district level between different institutions having infrastructure facilities in special areas will be required for effective implementation of VEP.

Excellence

The quality of training needs to be constantly upgraded in view of the competition provided by the liberalization of economy and freedom given to multinational companies. This can be achieved by providing necessary inputs, adequate infrastructural facilities, well-trained teachers, on-the-job training, in-plant training and quality skill training in real life situation by master craftsmen. Accreditation and certification for such qualitative improvement can be resorted to as per the demand of situation.

Vertical Mobility

The Vocational Education Programme (VEP) at the +2 level was conceived as terminal in nature, since the main objective of launching VEP was to reduce the aimless pursuit in higher education and to divert substantial percentage of vocational pass-outs towards self or wage employment. However, the experience of about two decades of its implementation clearly indicates that the students and society at large, in spite of valid economic and educational rationale for the terminal character of VEP ask for vertical mobility into higher-level courses leading to diploma/ degree. Articulation between various educational programmes has also been recommended by the National Policy on Education (1986), different Committees and National Seminars. It is, therefore, the need of the hour to devise and provide academic pathways, which could be pursued by those students who wish to acquire further education in their own areas of specialization and interest. For this, we have to make the present system of education more accessible and relevant to the +2 vocational students and provide them new avenues for career advancement and better employment.

Lifelong Education

Skill and competency training in the modern times cannot and should not be a one-time affair. The technological advancements are taking place so rapidly that one has to have training and retraining at frequent intervals during ones working life, if one has to perform satisfactorily. Lifelong education and continuing education are now essential requirements and the vocational education system has to be devised in order to make provision for them. Flexible modular vocational courses, with provision for multi-entry and multi-exit, where courses can be added and deleted as per the needs and as per the demands of new technology and new processes. Vocational Education and Training Centres can meet the requirement of lifelong education also.

Concluding Remarks

In this paper an attempt has been made to discuss the issues and challenges related to vocationalization of school education based on ground realities. In between, suggestions to develop a comprehensive vocational education programme have been given. The focus in these discussions is that, main thrust should be on providing vocational courses to the school-going students either within the school system or by establishing separate Vocational Education and Training Centres, which can act as resource centres for a cluster of nearby schools. Such centres can also provide opportunities for vocational training to other target groups whenever they need. Since vocational courses cover a variety of occupations, including those related to agriculture, business and commerce, home science, paramedical and general occupations, which cannot be covered by ITIs or Polytechnics, as such there is need for Vocational Education and Training Centres in large numbers.

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Population Education in Schools

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Introduction

India is the second most populous country in the world and comes next only to China. The recently conducted population census of 2001 has placed the provisional total at 102.7 crores, an increase of 181 million during the 1991-2001 decade. The decadal growth rate of 21.3 per cent has been lower than that of the previous decade that stood at 23.9 percent. India's population would, however, overtake China's population around 2040 if the decline in growth rate does not become faster than what has been assumed in making population projections. It may also be noted that India announced its National Population Policy in February 2000 with the goal that country's population stabilizes by 2050.

Soon after Independence, the Government of India appointed the Planning Commission to formulate a plan for most effective and balanced utilization of natural resources for economic development. While formulating the First Five Year Plan the Planning Commission recognized that a population policy oriented towards restraining population growth rate was essential to planning and that family planning is a step towards improvement in health, particularly that of mother and children. This became the beginning of an official population policy in the country. Since then, every Plan has made increasing provision for population stabilization and the country had evolved a comprehensive population policy in 2000.

Realizing the negative effect of rapid population growth on development, many developing countries launched their family planning programmes during the 1950s and onward. A majority of countries, including India, could not, however, progress to the desired extent. There have been two main reasons for continuation of high population growth in the developing countries that are: (i) traditional socio-cultural and religious values of the people that influence their fertility behaviour and are hard to change, and (ii) their large young population that has been entering the reproductive age groups in increasing numbers.

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Researches in India and large parts of the world have clearly brought out that education has been affecting fertility and mortality both directly and indirectly. Indirect impact of education is seen in rise in age at marriage, women's employment outside agriculture and a change in attitude towards family size. There is a clear relationship between level of education attained by a woman and her fertility rate. Various surveys in India (United Nations, ECOSOC, 1961; Driver, 1963; NSS Report No. 116; Husain, 1972; Operations Research Group, 1971; IIPS, 2000) have found that women with high school or higher education have significantly fewer children, on an average, than those with less or no education; the sharpest fertility drop occurs, as one might expect, at the level of college education. The direct impact of education comes through population education where children at different stages of school education learn about various relationships between educational attainment and population growth and economic development.

Considering the slow progress in the field of family planning, it was felt desirable to introduce population education in schools so that children learn about the virtues of small family and transfer this knowledge to their parents and community on the one hand, and utilize the same in their own life on the other hand. In view of the potential of education in alleviating the problems arising from increasing population, many countries, besides India, launched population education (PE) programmes at different levels of education in both formal and non-formal sectors during the 1970s and 1980s.

Evolution of the Concept of Population Education

Taking note that formal and non-formal education at the school level can help in changing mindset of the children, the Union Ministry of Education and Youth Services in collaboration with the Ministry of Health and Family Planning held a National Seminar on Population Education in Mumbai in August 1969 wherein it was decided to introduce elements of population dynamics at different stages of school education in subjects such as social studies, sciences, health education, mathematics, languages, etc. The concept of PE was initially defined on the basis of the following recommendations of the National Seminar on Population Education:

- The objective of population education should be to enable the students to understand that family size is controllable, that population limitation can facilitate the development of a higher quality of life...
- Students at all levels have a right to accurate information about the effect of changes in family size and national population on individual, family and the nation.
- Population should not be treated merely as a quantitative phenomenon...It is the quality of the population that is most relevant both as a factor of growth and an end product of growth...(Pandey, 2000: 59).

There were several reasons (and many of them continue to be so) for the introduction of PE at the school stage. For example, PE must cover not only the college-going students but also those who only go to schools, as majority of children grow into adulthood without having more than secondary and, in many cases, only primary education.

It was thought that integration of PE elements into the existing education system would encourage the children who would grow adult while passing through the school stage to play the role of opinion leaders for their parents and, more so, in their respective communities. They may help in preparing a congenial atmosphere in the community for the realization of national demographic and development goals.

Initially, Population Education in India was seen as an intervention strategy for attaining the national demographic goals. The first crucial task was to define PE and develop its conceptual framework with a scheme of contents that could be relevant to the Indian situation. PE emerged in the backdrop of family planning strategy that laid stress to limit the population growth rate. It was regarded as "a motivational force for creating right attitudes to family size and the need for family planning" and not merely "sex education or knowledge of family planning methods." PE was considered to be an education about 'population and economic development,' 'relationship between high birth rate and high infant mortality rate,' 'population impact on national income and per capita income;' "the difference in birth rates in different countries and their relevance to their differing degrees of economic development and levels of welfare; the costs of human resource development; the economic and welfare aspects of large and small families, and the extent to which family size is a matter of deliberate choice and human regulation rather than accident or of forces beyond human control (Parakh and Pandey, 1991:32). PE has also been regarded as 'the economics and sociology of the growth of population, its distribution and its relation to the standard of living and its ultimate economic and social consequences.'

In-house evaluation of the syllabi and textbooks developed by the National Council of Educational Research and Training (NCERT) starting from 1984 for various stages of school education identified significant gaps in the integration of PE in the content and process of school education. It was realized that the demography-laden conceptual framework, with excessive and not-so-essential elements of population dynamics, had hindered the process of effective integration of its elements into the school curriculum. This required the reconceptualization of PE itself. The need for modification of the conceptual framework was also felt in the background of the recommendations adopted by the International Conference on Population and Development held in Mexico City in 1984 that unfolded new dimensions of population phenomenon (Pandey, 2000: 60).

A major event of this quinquennium was the adoption of *National Policy on Education, 1986* that reflected the magnitude of the major causes and consequences of rapid population growth. It identified ten "core curricular areas" of which more than half were related to population concerns such as equality of sexes, protection of environment, removal of social barriers, observance of small family norm, and inculcation of scientific temper. All of them being critical concerns of population education, they provided an appropriate context to its reconceptualization (Pandey, 2000: 60). When the National Policy on Education was revised in 1992, PE was provided a distinct place as the Policy Document states:

> Population education must be viewed as an important part of the nation's strategy to contain the growth of population. Starting at the primary and secondary levels with inculcation of consciousness about the looming crisis due to expansion of population, educational programmes should actively motivate

and inform youth and adults about family planning and responsible parenthood (Ministry of Human Resource Development, 1992).

While revising the conceptual framework of PE in India, six major themes — family size and family welfare, delayed marriage, responsible parenthood, population change and resource development, population related values and beliefs, and status of women — were identified. Course content was evolved for all stages of school education — primary, upper primary and secondary — by drawing contents from the following six areas: economic development, social development, environment and resources, family life, health and nutrition, and demographic implications. The reconceptualized framework changed the demography-laden concept of PE into value-laden concept and defined it as education in the inter-relationships among population, development, resources, environment and quality of life (NCERT, 1988).

An International Conference on Population and Development (ICPD) held in Cairo in 1994 developed its own Programme of Action (POA) that necessitated a basic change in the conceptual framework of PE that, among other things, should include a number of emerging concerns that involve the inter-relationships of population phenomenon with economic development and social environment.

Taking note of the latest global consensus on population and development, the ICPD Programme of Action said that it was an imperative requirement for all planned interventions addressed to the population phenomenon to orient, revitalize and rejuvenate themselves to the *Paradigm Shift* from number to conditions for population stabilization. It was considered essential to focus on the individual needs instead of demographic targets and to integrate population concerns into development strategies rather than pursuing and providing sustenance to the population control approach (Pandey, 2000: 61).

The Population Education Framework even after the first reconceptualization during the mid-1980s did not include elements relating to the process of growing up and reproductive behaviour but, in view of the problems that adolescents have been confronting for lack of authentic knowledge about it from childhood to adulthood and the recently realized urgency to impart HIV/AIDS education, it was felt that the Population

Education Framework must be revised to incorporate all those elements (Pandey, 2000: 61).

Taking note of all the critical concerns reflected in the ICPD Programme of Action, the new population education programme focussed itself on the understanding of the inter-relationships between population and development, causes and consequences of population change, and the criticality of the essential conditions of population stabilization. Accordingly, the following became the redefined objectives of population education in India for all learners:

- Making learners aware of the inter-relationships between population and sustainable development;
- Developing in them an understanding of the criticality of essential conditions of population stabilization for better quality of life of present and future generations;
- Inculcating in them rational attitude and responsible behaviour towards population and development issues;
- Making them understand the crucial aspects of adolescent reproductive health, focussing on the elements of the process of growing up, and implications of HIV/AIDS and drug abuse;
- Inculcating in them rational attitude towards sex and drugs and promoting respect for the opposite sex; and
- Empowering them to take informed decisions on issues of population and development including those of reproductive health (Pandey, 2000: 62).

The above PE framework focussed on six major themes — (1) population and sustainable development; (2) gender equality and equity for empowerment of women; (3) adolescent reproductive health (adolescence education); (4) family: socio-cultural factors and quality of life; (5) health and education—key determinants of population change; and (6) population distribution, urbanization and migration. The content of each theme has been further specified. These contents belong to the existing subjects being taught at the school stage, such as, environmental studies, social studies, economics, geography, civics, political science, science, home science, biology, chemistry, physical and health education, psychology, sociology, history and others.

Implementation of the National Population Education Programme (NPEP)

In pursuance of the recommendations of the National Seminar on Population Education held in 1969,a nodal agency was made in India for propagation of population education. A Population Education Cell was set up in the NCERT. This Cell developed a draft population education syllabus in 1971. It defined PE as an educational intervention to make the target groups aware of the multi-faceted population phenomenon so that it leads them to take rational decisions concerning population matters. The syllabus contained a scheme of contents from the six major areas — population growth; population and economic development; population and social development; population health and nutrition; biological factors and family life; and ecological considerations and population. PE was treated as a demography-laden concept, predominantly as education in demography and population studies. The NCERT utilized the decade of the 1970s for the development of curricular, textual, instructional and source materials, testing the syllabi at different levels of school education, training of teachers, etc.

While India started with its state-sponsored population control programme with the First Five Year Plan (1951-56) itself, a matter of great significance was the presentation of a comprehensive document as the *National Population Policy* in Parliament by the then Health Minister on 16 April 1976. As regards population education, the Health Minister said;

> My Ministry is also in close touch with the Education Ministry with regard to the introduction of population values in the educational system, and the NCERT has already made a beginning in bringing out some textbooks on these lines. It is essential that the younger generations should grow up with an adequate awareness of the population problem and a realization of their national responsibility in this regard. Indeed, if I may venture to say so, exhortations to plan families are more important for the younger generations than for those who have already made their contribution to our demographic profile (Ministry of Health and Family Planning, 1976).

As a follow-up of the National Population Policy and the work done by the NCERT at its headquarters and in the states, the preparatory work on the National Population Education Project was initiated. During the 1970s State Population Education Cells were created in a number of States/UTs. These cells in some of the states adapted the syllabus prepared by the NCERT for different stages of school education according to their requirements and some other states translated the NCERT material in the local language to the extent it was feasible.

Considering the progress achieved during the 1970s, the National Population Education Project was launched in the country in April 1980 with financial support from the United Nations Population Fund (UNFPA) and technical support from the UNESCO. The project aimed at institutionalization of PE in all educational processes, from educational policies and objectives to evaluation covering in between all the vitally related areas such as curriculum framing, development of materials, both print and non-print, and teacher training. In the first cycle (1980-85) the accent was on expansion of the project and its activities, and on increasing the coverage of students, teachers and other educational functionaries of primary, upper primary and secondary stages (NCERT, 1991: 1). The project brought under its fold 28 States and Union Territories by 1982 giving it an all India character where activities were conducted for students and teachers of primary, upper primary and secondary stages, and for pupil teachers of elementary and secondary teacher education (Parakh and Pandey, 1991: 35).

The second cycle of the project (1986-90) started in early 1986. Two more states were added to the programme during this phase. The main focus during this period was on consolidation of the project's multi-dimensional activities and further expansion to cover the senior secondary stage and the non-formal education sector. Training activities were taken up for different target groups and co-curricular activities conducted at different levels. During the second cycle the NCERT devised new course contents for all stages of school education during the late 1980s but to the best of my knowledge and belief, the new courses have not been adopted uniformly in all the States and Union Territories for various reasons.

The PE programme entered in its third cycle with the beginning of 1993 coinciding almost with the Eighth Five Year Plan. The process of revising the syllabi and the textbooks was reinforced. Along with curricular development many more co-curricular activities were introduced at different stages of school education.

Keeping in mind the recommendations of the ICPD regarding adolescence education, the NCERT decided to introduce adolescence education in the school curriculum and finalized the General Framework of Adolescence Education through wider consultations at the national, regional and state levels. The

NCERT developed a package of basic material on Adolescence Education in Schools in 1999 to be used in teachers' training as also for imparting education to children. Efforts were made (and continue) to have a broad base of trained human power drawn from various categories of educational personnel and in-service teachers.

Besides NCERT, Central Board of Secondary Education (CBSE), in cooperation with the Union Ministry of Human Resource Development and the United Nations Population Fund, has launched a project on Population and Development Education. The project focusses on integrated approach, synthesizing related aspects of population, development, environment, and reproductive health. Initially states with comparatively poor demographic and social indicators, namely, Bihar, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh, would be receiving attention (P&DE Cell, CBSE n.d.: i). The P&DE Cell has prepared a training package entitled *Population and Adolescence Education* providing training programmes for the Master Trainers and secondary school teachers. The trained teachers would, in turn, create awareness and develop skills among our secondary school students, both boys and girls.

In India PE has been accepted as a critical curricular area in the National Policy on Education document, and its elements have been integrated in the selected subjects being taught at different school stages. It has, however, not been treated as a separate subject in the school curriculum. Co-curricular activities on the themes of PE have, however, become an integral part of the regular time schedule in a large number of schools.

The Fourth Phase of the project covering the period 1998-2001 started three years ago. Although this phase may appear to be another phase in continuation of the earlier phases, it has been conceived as a completely new project with new thrusts and strategies in consonance with the basic changes in the perception of population phenomenon. The Project is now known as *National Population Education Programme: Population and Development Education in Schools* (NPEP DESSH 2000). It focuses on the following two major issues:

- Integration of elements of the post-ICPD reconceptualized framework of population education; and
- Introduction of elements of Adolescent Reproductive Health (ARH) conceptualized as adolescence education (NPEP, DESSH, 2000).

Project Evaluation

The NCERT has been conducting its own evaluation studies at the national level as well as in states regarding the various aspects relating to the implementation of the PE project. These relate to course content analysis in different textbooks at the state level to evaluate the nature of integration; impact of special training of teachers relating to PE in their attitudes; changes, if any, of the attitudes and values of the school-going children, etc. Besides, two other comprehensive and independent "project evaluation studies" have been conducted by: (1) International Institute of Population Sciences (IIPS), Mumbai in 1989-90, and (2) Society for Applied Research in Education and Development (SARED), New Delhi in1994-95. Both these studies covered project activities of national level and those in selected states. While the first study was conducted towards the end of the second cycle of NPEP, the second study was conducted during the middle of the third cycle. The IIPS study evaluated project activities at the national level and in Bihar, Delhi, Gujarat, Kerala, Maharashtra, Mizoram and Orissa. The second study conducted by SARED covered project activities at the national level and those in the states of Himachal Pradesh, Karnataka, Madhya Pradesh, Nagaland, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The objectives and some of the important findings of the two studies are listed below.

Study by International Institute of Population Sciences

The specific objectives of the IIPS were to: (1) evaluate the process of implementation of the project that involved the evaluation of the strategies of NPEP including the role of various agencies in its implementation, and their functions and achievements; (2) analyse the content of lessons in the textbooks from Classes I to X in the school system and to evaluate the population education contents included in those textbooks; (3) study the impact of NPEP on cognitive (concerning awareness) and non-cognitive (concerning attitudes) outcomes of students and teachers; and (4) make specific recommendations for the improvement of the Project at the national and state levels (SARED, 1995: 5).

Some of the major findings of this study are given below:

- Whereas the study found gaps in the physical set up and facilities in the Population Education Cells, it noted the large amount of material developed, number of teachers covered under the training programmes and co-curricular activities conducted. As regards the impact of project activities on students and teachers, it found a positive correlation between the inputs made and the level of awareness of both the target groups.

- As regards PE content in textbooks the IIPS found that content areas 'population and family life' and 'population and social development' were ignored the most. Further, in some states, some of the 'minimum essential' content identified by the NCERT were missing in the textbooks. The Report indicated that the SCERTs/SIEs, by and large, have not played any role in preparation of textbooks as a result of which various deficiencies in them have occurred.
- On an average the achievement of Class X students was the highest followed by Class VIII and Class IV students. Exposure to mass media influenced awareness scores positively. Awareness, in general, was greater in states with a better record of organizing co-curricular activities in PE.
- By and large students were yet to form favourable attitudes towards population related issues, the trend was in the expected direction.
- Overall performance of school teachers on awareness test was very good. The teachers trained in population education scored significantly higher than their untrained counterparts.
- Teachers had developed positive attitudes. Female teachers, acceptors of family planning and teachers of private schools had developed more positive attitudes. There was perceptible impact of training in population education on teachers (SARED, 1995: pp. 5-6; NPEP, DESSH, 2000).

Study by Society for Applied Research in Education and Development

The terms of reference of this second study were: (1) to evaluate the curricular learning and training material on the emerging areas of PE, viz. Adolescence Education (Sex Education, AIDS Education, and Education against drug abuse, ageing, etc.); (2) to evaluate the effectiveness of newly developed instructional and training materials in PE for all school stages and teacher education; and (3) to evaluate the effectiveness of 'Question Bank in Population Education' for its usability in the context of public examination to be conducted by State Boards and examinations conducted in schools (SARED, 1995: 8).

The following are some of the conclusions of this evaluation study:

- While a lot of work has been done both at national and state levels, there were still deficiencies and gaps to fill, particularly in the light of the ICPD Programme of Action. Not all states had made similar progress.
- Although PE content is included in textbooks of social sciences and science at the upper primary and secondary stages, their coverage in language textbooks was meagre and sporadic.
- The publication of the books is basically the responsibility of the SCERTs. The availability of needed material was poor in some of the states such as Karnataka and Nagaland and, to some extent, in Himachal Pradesh. There is variation in choice of groups for whom the material is developed by the states. West Bengal initially focussed on materials for the secondary stage and shifted to preparation of supplementary reading materials for the non-formal education sector. Tamil Nadu catered mainly for elementary school children with limited material support for the secondary stage. Revision of material based on tryout was rare to see (SARED, 1995: 131-32)
- The monitoring system has been weak both at national and state levels.
- More work was needed for the effective introduction of adolescence education.
- As the study concluded, at a particular stage of development in India, PE needed further support and strengthening. Efforts needed now should be more vigorous and self-sustaining, rising above the level of mediocre and routine coverage of population education in school curricula.
- More research for improvement of programmes, greater emphasis on development and adoption of innovative methods, and increased interaction with other agencies was the need of the hour at that stage (NPEP, 2000).

Although the strategy of integration of population education contents in the syllabi and textbooks of different subjects has been considered successful to a large extent, evaluation studies have brought forth the limitations of this approach. It has been found in an in-house evaluation that there are a number of critical contents of population education that are yet to be included in school syllabi and textbooks. Particularly, the new elements of reconceptualized population education do not find a place in the existing school curriculum.

The whole range of content related to adolescent reproductive health conceptualized as adolescence education is absent in the syllabi and textbooks of school education (Srivastava, 1999). Even the contents that are incorporated lack the treatment that may ensure the attainment of population education objectives (Pandey, 2000: 64).

The fourth cycle of the project would be over by the end of 2001. The UNFPA initiated an evaluation study of the project in 2000; the report is awaited. Besides these studies, the NCERT has been encouraging organizations and individual researchers to undertake studies covering various aspects and issues relating to population education. The Council itself conducted ten research studies reviewing the syllabus and textbooks (including their content analysis) at the state level, need assessment study of NPEP, population education awareness, cost-effectiveness of training strategies in population education, and evaluation of the programme at different stages of the Project, etc. Eleven studies on different topics related to population education were funded by the NCERT during 1993-98. Further, a number of studies covering different aspects of PE are in the form of Ph.D. and M.Phil. theses conducted in various universities all over the country besides published papers.

Some Recent Developments

National Population Policy 2000

Recognizing the need for population stabilization as an essential requirement for promoting sustainable development with more equitable distribution, the Government of India, Ministry of Health and Family Welfare, presented a new and comprehensive population policy termed as *National Population Policy 2000* (NPP-2000) on 15 February 2000. The NPP-2000 provides a policy framework for advancing goals and prioritizing strategies during the next decade to meet the reproductive child health needs of the people in India and achieve net replacement level by 2010. The Government has laid down some 14 national socio-demographic goals that should be achieved by 2010. These include achieving total fertility rate of 2.1 per woman, reducing infant mortality rate to below 30 per 1000 live births, reducing maternal mortality to below 100 per one lakh of live births, achieving universal immunization of children against all vaccine preventable diseases, promoting delayed marriage of girls, not earlier than 18 and preferably after 20, making school education up to age 14 free and compulsory, and reduction in the drop-out at primary stage to below 20 per cent for both boys and girls. Health care of mother and child, achieving 80 per cent institutional deliveries and 100 per cent deliveries by trained persons, health and sanitation figure are high on its agenda (Ministry of Health and Family Welfare, 2000). The NP-2000 has also indicated that India's population should be stabilized by 2050. Further, it has laid stress on the inclusion of health, nutrition and population related material in the curriculum for formal and non-formal education; involvement of all district *Saksharta Samitis* in IEC activities pertaining to RCH programmes; and involvement of school teachers and children in Class V and above in growth monitoring, immunization and related activities in the village at least once a month as a part of socially useful productive work. It has yet to be seen as to how the main features of this Population Policy would be integrated into PE syllabi, textbooks, teacher education, etc. without substantially changing the current approach. It is noteworthy that while no targets have been fixed for the staff at the district and lower levels but there are definite demographic targets to be achieved at the national level. The Panchayats at the local level would be required to fix their own demographic targets.

Census of India 2001

The provisional population totals for the country released by the Census Commissioner on 26 March 2001 bring forth certain issues that add to the significance of the role of education in population stabilization. According to the Census 2001 India's population as of 1 March 2001 was 102.70 crore. During 1991-2001, 18.1 crore people were added to the country's population. It is heartening to note that the decadal growth rate declined perceptibly to 21.3 per cent during 1991-2001 from the previous level of 23.9 per cent. There are, however, wide variations among the states in their decadal growth rates. Among the major states, while Bihar has recorded the highest decadal growth rate of 28.4 per cent, Kerala has recorded a growth rate of mere 9.4 per cent followed by Tamil Nadu with a growth rate of 11.2 per cent.

Another heartening fact of the 2001 census is a sharp increase in literacy rate from 52.2 per cent in 1991 to 65.4 per cent in 2001. The absolute number of illiterates in the country has also fallen down for the first time.

While the sex ratio (females per 1,000 males) in the general population has improved from 927 in 1991 to 933 in 2001, it is a matter of great concern that the sex ratio among children below the age of 7 years has declined from 945 in 1991 to 927 in 2001. This finding is still more critical since the sharpest declines in child sex ratio has been observed in relatively developed states like Punjab, Haryana, Gujarat, Himachal Pradesh and Maharashtra.

Keeping the above developments (the National Population Policy 2000 and the results of the 2001 census) in view, it seems necessary to re-examine the current stress in PE. If the targets prescribed in the NPP 2000 have to be really achieved, the PE may have to reintroduce demographic perspective in a substantive way.

Conclusions

It has now been three decades since population education in the school system was conceptualized. With the changing emphasis from demography-laden concept predominantly as 'education in demography and population studies' to that of value-laden concept and defined as 'education in the inter-relationships among population, development, resources, environment and quality of life,' the country has moved a long way. With this concept of PE, it became natural to modify the course content in all stages of educational programme — primary, upper primary and secondary. While the NCERT was busy in developing the new course content, the Programme of Action of the ICPD held in Cairo in 1994 brought a *Paradigm Shift* from numbers to conditions for population stabilization, which implied emphasis on individual needs instead of demographic targets and integration of population concerns into economic development and social environment strategies. In view of the problems that adolescents have been confronting, for lack of authentic knowledge about the process of growing up from childhood to adulthood, and the recently realized urgency to impart HIV/AIDS education, it was felt that the Population Education Framework must be revised to incorporate all these elements.

The NCERT has all through been engaged in developing needed material for different stages of school education, teacher education and for Teacher Trainers, etc. It is, however, the responsibility of the SCERTs and States' Population Education Cells to adapt the material according to their states' requirements. There have been several bottlenecks in this regard. For example, the revision of the chapters in different books to include new materials and preparation of new material related to 'emerging concerns' has not been very satisfactory as, it seems, very little effort has been made in this direction. Availability of experts at the SCERTs to do the revision or write new chapters has been responsible for the situation.

One of the major problems in taking PE to the grassroot level is that the NCERT and the SCERTs have been able to cover the teachers and pupils of the government schools only. Hence, all those students who are enrolled in the private aided and private unaided schools are left out. It is true that most of such schools have largely prescribed the NCERT books but there is hardly any training or exposure of teachers in respect of 'population and development issues.' This situation needs to be corrected by expanding the coverage to impart training to teachers of such schools for which the Government of India and the international donor agencies should play the needed role.

The in-house as well as independent "evaluation studies" have indicated positive attitudes of the teachers towards 'population and development education,' more so in schools where there are a number of co-curricular activities in this respect. This implies that more and more schools and communities need to be involved in co-curricular activities.

Recently, the Central Board of Secondary Education (CBSE) has taken a leap in the field of 'population and development education' and has created its own reading material. It has also produced training manual for master trainers regarding 'adolescent education.' There seems to be quite a bit of avoidable duplication and confusion both for the teachers and the secondary school students that needs to be sorted out.

Presently, the main objectives of PE in schools are: (1) making learners aware of the inter-relationships between population and sustainable development; (2) inculcating in them rational attitude and responsible behaviour towards population and development issues as also towards sex and drugs and promoting respect for the opposite sex; (3) making them understand the crucial aspects of the adolescent reproductive health, focussing on elements of the process of growing up, and implications of HIV/AIDS and drugabuse; and (4) empowering them to take informed decisions on issues of population and development including those of reproductive health. Over the past two decades since the PE programme took roots in India, a large number of students have completed their education with exposure to PE concepts whether they left school after the secondary stage, the upper primary stage or simply the primary stage. There is no study giving an evaluation of the impact of population education a few years later after leaving school, especially among married couples. An evaluation of whether the PE in schools has made impact on the mind of such people or is it the exposure to mass media (both electronic and print) that has changed their attitudes would be very important and timely. This will help in chalking out future strategies with regard to population and development.

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Bio-diversity and Environment Education

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The essay attempts to grapple with some of the current issues in biodiversity and addresses the manner in which education concerning the environment needs to be shaped.

The Widening Horizon of Bio-diversity

Biological diversity or bio-diversity is the variability found among living organisms, the ecological complexes of which they are part and includes diversity within, between species, and of ecosystems. The term 'bio-diversity' is a relatively recently coined term (Wilson, 1997) and has gained prominence due to the worldwide concern for the environment. Rapid knowledge expansion has led bio-diversity to spill over beyond the academic discipline of ecology into molecular biology, economics, anthropology, law and public policy.

Bio-technology is attempting to move bio-diversity into the realm of technology, since biological diversity is the fuelling element of bio-technology. The wild relatives of cultivated plants are the raw materials for bio-technologies and genetic engineering, without which new varieties cannot be created through genetic manipulation (Deo, 1991). Examples of products derived from modern bio-technology include tomatoes with an extended shelf life and drugs such as tissue plasminogen activator, used to dissolve blood clots during heart attacks.

Several other products are also in development, including disease-resistant plants, 'natural' pesticides, environmental remediation technologies, biodegradable plastics, novel therapeutic agents, chemical enzymes that will reduce the cost and improve the efficiency of industrial process. Given the current understanding, bio-technology is expected to have a dramatic effect on the world economy.

More and more social scientists, especially economists now

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address issues concerning biological diversity. The worldwide environmental movement, increased awareness of people and the emergence of modern bio-technology has been largely responsible for such an outcome. The discipline of environmental economics now refers to several natural resource issues. Tracing its history one realises that economists have moved far from referring essentially to conservation to issues pertaining to sustainable use of biological diversity and its rational commercialisation. Studies by anthropologists and ethnobiologists are reinforcing the link between biological diversity and cultural diversity, since the biologically rich areas are also culturally diverse (Possey and Durfield, 1996).

Increasing globalisation has brought bio-diversity to centre-stage of international negotiations. The Convention on Biological Diversity (CBD) (1992) is one of the most comprehensive and recent attempts to address the issue of bio-diversity that has been ratified by 169 countries. Contemporary trade regimes press tropical developing nations that are rich in bio-diversity to formalise the ownership of materials and knowledge associated with it. Legally binding and non-legal arrangements of Intellectual Property Rights (IPRs) regarding bio-diversity are being attempted (Possey and Durfield, 1996). Studies are also underway to harmonise the objectives of the CBD with WTO arrangements (Anonymous, 1998) Thus, it is clear that the horizon of bio-diversity issues is rapidly expanding and there is the need to disseminate information and knowledge about it among the citizens of this nation to help them rise to new challenges and opportunities.

Biological Diversity: The Indian Context

India is one of the twelve mega-biodiverse countries of the world. Biological diversity exists in the wild as well as in the form of domesticated crops, varieties and breeds. While the former is essentially shaped by climate and natural resources, domesticated bio-diversity is a cultural and human construct that involves the application of knowledge, migrations and continuous use.

With only 2.4% of the total land area of the world, the known biological diversity of India contributes 8% to the known global bio-diversity. It is one of the twelve mega-biodiverse centres in the world, representing two of the major realms and three of the basic biomes of the world. Currently, available data place India in the tenth position in the world and fourth in Asia in plant diversity. In terms of the number of mammalian species, India ranks tenth in the world; in terms of endemic species of higher vertebrates, it ranks eleventh. It stands seventh in the world for the number of species contributed to agriculture and animal husbandry. From about 70% of the total geographical area surveyed so far, 49,000 plant species and 81,000 animal species have been described by the Botanical Survey of India (BSI) and the Zoological Survey of India (ZSI), respectively (Anonymous, 1998a).

Conservation of wild bio-diversity has received more attention from the state probably because of our colonial legacy. The networks of Protected Areas (PAs) in India are an indication of the attention wild bio-diversity is getting from the state. India now has 89 National Parks and 482 Wildlife Sanctuaries covering an area of over 15.4 million ha. or 4.7% of the total geographical area of the country (Singh, 2001). Apart from such protected areas, the Central and State Governments together manage 33 botanical gardens and 275 *ex situ* wildlife conservation areas in the form of zoos, deer parks, safari parks, aquarium, etc. (Anonymous, 1998a).

While colonial legacy and urban environmentalism has focussed more on wilderness areas, domesticated bio-diversity has been receiving attention only in the recent decades. Since 1976, the National Bureau of Plant Genetic Resources (NBPGR) has surveyed and collected 1,63, 150 accessions belonging to 80 genera of agri-horticultural crops as base collections, 1250 seed samples in cryobank (stored in liquid nitrogen at −196°C) and 850 tissue culture materials comprising about 25 genera. The other two national institutions involved in domesticated bio-diversity are the National Bureau of Animal Genetic Resources (NBAGR), Karnal and the National Bureau of Fish Genetic Resources (NBFGR), Lucknow (Anonymous, 1998a).

The growing realisation on the importance of biodiversity to human lives has led to the emergence of a large number of peoples' movements like *Chipko* and *Appiko* to champion its cause. Today a large number of professional Non-Governmental Organisations (NGOs) and Civil Society Organisations (CSOs) are taking up the challenge of these issues in a big way. As more and more people realise the importance of biological diversity such movements and actions are bound to increase.

Some recent attempts by academicians and intellectuals to address the issue of bio-diversity from a grassroot perspective is of the Peoples'·Bio-diversity Register (PBR). Several Peoples' Bio-diversity Registers (PBRs) have been prepared from Karnataka, Kerala (Dr N. Anil Kumar, pers. communication), Maharashtra, West Bengal to document the existing bio-diversity and knowledge of people (Gadgil, et al, 2000). Efforts by SRISTI, an NGO based in Ahmedabad, has been documenting innovations and technologies by people, which includes bio-diversity-related aspects. Such efforts have been undertaken with the hope that they may form the basis for sharing of benefits that may arise in their use in the future.

Shrinking Domain of Bio-diversity: Urbanisation and Bio-diversity

Whatever our best efforts may be with regard to wild and domesticated bio-diversity, the fact that looms large is that bio-diversity — wild and domesticated — is being lost at a rapid rate. Declining area under forest cover, land degradation, over-grazing and a host of other demographic factors are responsible for wild bio-diversity loss. Changes in the Landuse technology, modernised milk and meat demand, seasonal labour circulation to cities and megapolises are contributing to domesticated bio-diversity loss. Moreover, the percentage of population living in urban areas increased from 17.6% to 26.1% between 1951 and 1991 (Mohan, 1996). In addition to the above, cities themselves are expanding leading to radical transformation of rural landscapes. For example, since 1951 about 140 villages have become completely incorporated into the city of Delhi (Bentinck, 2000). Such transformations will only increase further in the near future. The net outcome of such transformations would be changing attitudes of people with each passing year as they are removed more and more from the farm. Therefore, in the future bio-diversity issues will have to be addressed to an increasingly urbanised population. The efforts by RANWA, an NGO based in Pune may throw some light about urban bio-diversity assessment (Nalawade, et al. 2000) involving local colleges. Awareness and action related to bio-diversity is the need of the hour, since urban population will decide on the way bio-diversity will be used. Moreover, rural-urban conflicts over natural resources including bio-diversity may become sharper in the years to come.

Lifestyles and Access to Education: The Bio-diversity Dimension

Accelerating globalisation is leading to increase in the pace of human lives. Speed brings with it drastic changes in lifestyles and largely shapes our education process. The massive explosion of knowledge in the last few decades is forcing people to specialise. The sociological tenet of increasing complexity of knowledge leads to increasing specialisation is unfolding in today's world. However, the issue of bio-diversity concerns humanity as a whole as it is entwined in our daily life and therefore cannot be in the domain of a specialist alone. The general population will have to be involved very much in biodiversity issues. For active participation of people in biodiversity issues, awareness and education are necessary since it is relevant but unconventional.

Beyond Curriculum: Knowledge into Action

Creation of an informed public opinion on issues related to bio-diversity is essential for concerted actions to take place. This will have to be followed up with response by the state by way of appropriate policy measures for conservation, sustainable use and rational commercialisation of bio-diversity. Bio-diversity is both a wealth of our nation as well as that of our ancestors. Handing over to the future generation is part of the moral responsibility of the current generation.

Bio-diversity issues should be addressed both within the curriculum and as well as outside. There is a need to involve children as well as adults in a big way into bio-diversity issues. Knowledge alone does not bring about action, only commitment does. Action-oriented bio-diversity programmes involving schools, colleges, teachers, local bodies like panchayats and local bodies, non-governmental and civil society organisations and government organisations may go a long way in improving the situation. Other activities include tree planting, medicinal plant gardens, clean-up drives, short studies, classroom projects which attempt at converting concepts into action. Activities for urbanities should include field visits, excursions and field stays.

The extensive use of information and related technologies in spreading information and knowledge about bio-diversity may now be possible. Already satellite television and nature channels have indeed created an active interest on some of the issues among the elite population, which could be an active start.

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Teaching and Learning of Social Studies

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Introduction

The educational process is signified by the trinity of teaching, learning and evaluation. Teaching and learning are the main pillars that provide the base for the entire structure of formal education coupled with evaluation of learning outcomes. The strength of this structure lies on the way the teaching takes place and its wholesome impact on learner's growth and development. These are ascertained through regular assessment. This process is applied for each curricular area designed with a purpose of giving opportunities to students for acquisition of knowledge and development of skills and competence. Social Studies as one of the major curricular areas aims at equipping children with learning experiences in the context of social relationships, cultural norms, geographical settings, civic and political institutions in the cognitive domain and social personal qualities, interests, attitudes and values in the affective domain. The fostering of social competence is the sole responsibility of social studies.

It is believed that the learning occurs through the process of providing experiences to the child. Undoubtedly the child gathers some experiences even before coming to the school. The classroom process, however, adds and enhances to these experiences further and sometimes moulds them in a desired order for the purposes of restructuring. This happens only when the educator views "teaching and learning as a continuous process of reconstruction of experiences" (Dewey, 1938). Reconstructing the experiences requires a definite method of teaching which is termed as 'pedagogy' in educational parlance. Pedagogy is a procedure used in a classroom where the teacher tries to transmit the knowledge and skill to the learners with a purpose through employing suitable techniques. These techniques of teaching may vary in structure, mode of execution and producing different level of results in learning outcomes. Pedagogies are usually classified as teacher-centred and pupil-centred. Vygotskin has also given classification of pedagogies as behaviourist and social constructivist (Mok, Morris, 2001). The former approach portrays teacher central strategy with textbooks providing the major source of knowledge for the classroom processes. The latter pedagogy is characterized as pupil-centred, using group-based learning and a variety of resources. These approaches are practised in schools world over. Nevertheless, as of now the educationally leading countries are heavily depending on pupil-centred approach of teaching.

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Learning is conceptualized as a purposeful process involving the learner in active construction of knowledge. Learning is constructive which means that learners can construct their knowledge and skills (Scherens Basker, Creemer, 2001).

The last decade of 20th century has witnessed a global shift in the approaches of teaching including East Asian countries (Stevenson and Lee, 1979). India is also not far behind. Undoubtedly at the policy level there has been an attempt to shift teaching and learning away from a behaviourist approach to a social constructivist approach to focus on whole class instruction approach to turn teaching in 'good' teaching. Good teaching is explained by Biggs as 'that where teaching methods are varied emphasizing pupil, activity, self regulation and pupil-centredness with much cooperative and other group work". (Mok, Morn, 2001).

In the Indian context, it is worthwhile to examine the status of social studies, its conceptual growth along with changes in the concept, procedure of teaching and learning and the achievement attained. It may also be pertinent to investigate the shortcomings and challenges faced by the subject in the current social millieu and its future prospect in the light of learner's demand.

Concept of Social Studies

Traditionally, the total knowledge is confined to broad division of science and social science pertaining to natural environment and social environment. However, expansion of knowledge led to the growth of more specialized knowledge resulting into various segments. The knowledge concerning natural environment advanced into physical and biological sciences covering disciplines like physics, chemistry, biology, botany and zoology under the main stream of science whereas the knowledge of social environment grew into a number of offshoots of a major stream of social sciences resulting into history, geography, sociology, economics and psychology, etc. These disciplines further branch into several curricular areas in accordance with the level and stage of schooling. For example, social studies is delineated from social science subjects taking important contents from them and fusing them into an integrated whole in the form of a new subject at the primary level. Its content organization has its own structure. It covers generally man and his environment comprising geographical settings in which the child lives, the people and the organizations to which he belongs and the context of social, cultural, religious and linguistic situations in which he interacts. This mixture of different themes provides a mosaic-like structure for social studies.

It is only since about one hundred years that a real interest has been observed in the subject like social studies. Subsequently it has been understood that this subject has something valuable to contribute, therefore it may be exploited purposefully. It has been included as social sciences at elementary stage of schooling as well. At these levels the scope of the subject is extended with a view to giving the child the sense of time and space. For this purpose the components like history and geography are included. In history, the scope ranges from local history to the history of the country and sometimes different countries of the world including the study of civilizations and its impact. This gives a sense of continuity and change and evolution of culture. It also helps in instilling the sense of pride in one's national heritage. On the other hand the study of geography ranges from the contents of local geographical features to the features of world geography through which the children understand the variety of seasons, crops, vegetations and the people belonging to different races, castes, creeds, religions, etc. It aims at developing a sense of interdependence of man on natural environment. Civics deals with different civic and political institutions, their structures, working and problems. It studies various forms of government, their merits and demerits, rights and duties of an individual in these systems. The purpose of studying civics is to instill a civic sense in pupils. In economics the children study the economy of their own country along with economies of other countries. The relationship of economic structure and development, the problems regarding the development of the country and their solutions are also the part of it. Pupils understand that their welfare depends on the economic status of the country.

Besides, sociology and psychology have also been considered useful components of social science. Sociology tries to explain the social dynamics of the society to which the child belongs and those social norms which distinguish it from other societies. Family structure, institution of marriage, kith and kin, rituals, traditions, folk dance, music, drama, etc. are the main constituents of this subject. The study of sociology helps in understanding the weak and strong points of one's society and develops the skill of adjustment with the people. As far as psychology is concerned adolescent psychology at secondary stage makes it a very relevant and interesting study for the children. The highlights of different components of social studies present a picture which enable the curriculum developer, text-book makers and teachers to organize the content areas in such a way that a balanced mixture of themes emerges and no significant portion is left out.

Rationale

Realizing the importance of the social studies several factors have been identified for developing the rationale for the inclusion of this subject in the curriculum. These are listed below:

- Exposure to social realities.
- Developing participative skills.
- Familiarity with human values, positive attitudes and desirable interest.
- Acquaintance with the political, social and economic events of the country.
- Awareness regarding the diagnosis of the major current problems and their solutions.
- Familiarity with the idea of change and how to cope up with the acceleratingly rapid change and shape them towards humane and acceptable outcomes.
- Developing the critical thinking and decision-making capacities of persons as members of society.

- Developing understanding towards the following specific aspects that the individuals:
  (a) share a common humanity,
  (b) have a strong potential of thinking and taking decision,
  (c) have a strong need for community, self-esteem, identity and a well-structured value system,
  (d) have to manage the society facing cultural crises and complexities,
  (e) have to work for creating peace, harmony and social cohesion in the society.

Key Terms

The aforesaid rationale provides the whole gamut of expectations which ought to be met with the inclusion of this subject. This also gives an outline of the objectives and scope of the subject. Apart from this to develop a perfect understanding of the concept it is necessary to know three key terms which are very much in vogue in reference to the organization of the syllabus of social studies. These terms are 'environmental studies', 'social studies', and 'social science' capable enough to explain the nature of the content and structure of discipline.

The term environmental studies means the study of environment which is generally used at lower primary level in reference to the components of science and social studies combined together. The child learns about the peripheral level of information concerning his immediate environment related to both, natural and social. The study of natural environment unfolds the awareness of natural phenomenon around the child while the study of social environment gives him an idea of the people, places, institutions and cultural elements of the society in which he lives and has the experience of living together. Environment as a whole becomes the cornerstone of environmental studies.

Interestingly it is observed that the terms social studies and social science are often used synonymously. However theoretically they are considered different and expected to operate at different levels. Social studies is generally included in the curriculum at the primary level and has the constituents drawn from various disciplines of social science relevant for this level and organized in an integrated way. It may introduce the child to the concept of family, school, neighbourhood and community. Gradually the scope is widened by including the social and cultural life of the other parts of the country.

On the other hand social science is introduced at the upper primary and secondary level with a view to develop an insight into human relationships, social values and attitudes prevalent in society. The level of the content is deeper in terms of facts and figures, processes and patterns.

Objectives of Teaching Social Studies

After independence the objectives of education have been determined from time to time with a view to reforming the education system. For this a well-designed outlines of curricular framework is worked out where the curricular areas are woven keeping in view the needs of society and the learner. Social studies has been considered as one of the major partners in fulfilling the objectives of education. Now for the education of 21st century some of the major curricular concerns have been identified which can as well be taken as ideational objectives of social studies (NCERT, 1999). These are as under:

(i) Developing the sense of inter-dependence of man on environment natural as well as social.
(ii) Providing education to establish socially cohesive society.
(iii) Developing understanding of an egalitarian social system where everyone has access for equal opportunity.
(iv) Strengthening national identity and preserving cultural heritage coupled with India's contribution to mankind.
(v) Equipping the students to cope up with the challenges of globalization.
(vi) Developing life-skills and promoting social personal qualities.
(vii) Instilling democratic norms and parliamentary behaviour.
(viii) Developing the skills of learning to learn.

These ideational objectives are in fact long-term objectives which cannot be achieved in a short span of time, therefore, they need to be broken down in specific and minimal objectives to be attained through classroom processes.

For establishing a cohesive society which may be free from various kinds of biases and imbalances such as rural/urban, rich/poor and differences on account of caste, gender, etc. the students need to understand the social realities of Indian society perpetuating since centuries.

Strengthening national identify and preserving cultural heritage is another ideational objective for social studies and the whole educational process has to strive hard to achieve it. The current situation reveals the sense of identity crisis and lack of faith in Indian citizen. People by and large feel depressed in terms of culture and prosperity.

Social studies can play a crucial role in this respect by providing the information of cultural heritage of India and develop a faith in the students in their rich cultural heritage and continuity of cultural traditions.

Globalization is a new slogan these days but *vasudaiva kutumbakam* is quite an old saying in Indian tradition. This idea has to be just revived in the social studies classrooms by explaining the concept of interdependence among the nations. The concept of international peace and world harmony has to be dealt within the light of the concept of "Padosi Dharma". Of course, this concept has to be explained in the context of contemporary world problems.

One of the major thrusts of the social studies expected to be is the development of life skills. The students need to acquire knowledge useful for their daily life related to their physical problems, social interactions and emotional dealings. For the positive development of these areas social personal qualities need to be developed and direction of growth be assessed in definite lessons under the study of co-scholastic areas. This may also include health habits, aesthetic sense, and value development.

The most important is the development of democratic norms. Our society is in transition from a feudal to democratic society as far as the way of life is concerned irrespective of the fact that the Indian Constitutions enshrines democratic values. It is the responsibility of social studies to develop these norms in the students and instill faith in the duties of the citizen.

Developing the skill of learning to learn assumes greater importance in the wake of the expansions of information technology particularly in the context of computer education. This will enhance the capacity of learners to learn by himself following the investigative approach. To face the challenges of globalization this approach is going to provide a helping hand to the students easily. The use of computers, T.V., audio, video cassettes and alike technological instruments will be of immense help in teaching of social studies.

International Experiences

It would be interesting to look into the major social issues identified in the NIER Report on some critical aspects of Secondary Education in the countries of Asia and the Pacific (1988) covering the educational systems of 16 countries. The common issues include: drug abuse, environmental degradation, consumerisation, human rights, moral values, national heritage, women's rights, increasing efficiency, health and fitness, safety and social and economic equality.

Besides, some country specific issues are also worth studying. These are— Population growth, national unity, political cohesion, nationalism, agrarian reforms, rural development, catering to manpower needs, superstitions, and entrepreneurship.

Apart from these, some more specific areas which have been identified as current needs are: value education, education about religions, life skill education, and computer education.

The countries under study have given thought to their social problems and identified them to be studied in detail by their pupils. Undoubtedly some of them are the substantial component of social study education which aims at making students knowledgeable, alert and responsible citizens.

It may be pertinent to add that some of the social concerns mentioned above match with our social concerns particularly the population growth, drug abuse, environmental degradation, women's right, national heritage, etc. Values, life skills and information technology are equally important issues which are to be touched with sensitivity. These concerns pave a way to undertake the exercise of framing curriculum for shaping the educational process from time to time. The NCERT has taken positive steps by preparing curriculum framework thrice in three decades in the year of 1975, 1988 and 2000 in free India.

Curricular Changes

Table 1 represents a comparative analysis of the three curriculum frameworks prepared by the NCERT in 1975, 1988 and 2000. It reveals the similarities and differences among these documents with regard to some basic parameters of social studies and social science area.

The recently prepared *National Curriculum Framework for School Education* (2000) suggested some modifications in view of certain major considerations such as lessening the workload and introducing some front-line areas. The remarkable feature of the scheme of study is that at Class I and II level the content of environmental study has to be integrated with language, mathematics and components of physical and health education as well as drawing as a part of art education. On the other hand in Classes III to V the natural and social elements of environment have been in an integrated way under environmental studies.

At upper primary stage the framework included the study of India and the world with reference to components of environment. But now the study will be including the interaction of man with environment in greater depth in terms of processes and pattern. For making this study viable the social science as subject will be introduced in an integrated way where selected events of India's past may constitute the part of the study in the social, cultural and scientific development. The knowledge of other civilizations which contributed to the growth of Indian culture will also be the part of this subject. However, the study of contemporary society including social, political and economic institutions will be in sharp focus as it is referred in the curriculum that "the themes/issues could provide a sound basis for the selection and organization of the content areas" (Curriculum, 2000). Further, the document states that "the themes may be drawn from geography, history, and civics.

As regards the teaching strategies for primary stage, it is stated in the curriculum framework 1975 that an integrated approach based on topics and themes rather than on the subject may be followed. The learning situations are to be created by the teacher to plan number of activities and programmes for the children.

The curriculum framework 1988 emphasized on three aspects in the study of social science such as learning about the social environment, learning through the social environment, and learning for social environment. Environmental approach of teaching for the transaction of instruction is given importance. Similarly in curriculum framework 2000 the integrated approach along with activities like games, health and drawing is given emphasis.

No specific strategy has been suggested in relation to upper primary and secondary stage in both the curriculum of 1975 and in 1988. However, it is just mentioned in the 1988 curriculum framework in the case of teaching of history of secondary stage that "it should be objective and free from any communal, parochial and other prejudices". Some indications have been given to emphasize challenging assignment, project work, group activities, use of newspapers, news magazines, etc. A scanning of curriculum frame work 2000 reveals that it reiterates to the same stand which is propagated in earlier curriculum framework regarding the strategies at upper primary and secondary stage. The only difference lies in the emphasis on investigative approach which is added in this curriculum framework for upper primary stage and case studies and project work at secondary stage.

The analysis of the curriculum frameworks leads to believe that the conscious efforts have been made to dwell upon the teaching strategies but in a sketchy way. Much has been left to the syllabus framers and further on teachers' initiative.

Issues and Concerns

Some of the major issues related to the study of social studies are multifaceted and need to be addressed. These deal with the status, concept and organization of subjects. It also entails the curricular units of the teaching pattern and evaluation procedures prevalent in the schools.

The issue related to the 'status' of the subject raises question its relevance with regard to its inclusion as a part of general education. Whether it should be one of the core curricular areas or not.

Closely related to it is the 'concept' of the subject which involves the problem of its nomenclature whether it should be Social Studies with its presentation in integrated form or Social Science with its organization based on separate approach. Different approaches and different names are observed for primary and secondary levels in the curricula. This sometimes creates confusion in the minds of teachers as well as learners. This also compounds the problem at the time of framing the syllabus and writing the textbook.

An issue as an offshoot of the above is connected with the organization of content units. If organized in integrated way at primary level it requires a clarification as to what components may be included and what would be their scope. Similarly for Social Science what are the subjects which may constitute its syllabus? For example whether economics and sociology should also be added besides History, Geography and Civics? These are some of the crucial issues which demand focussed attention.

With the changing society world over globalization is the trend pupils need to be prepared to face it and the related problems. Tolerance could be the key word and civic education will have to focus on it. Therefore, civics should be the important component. There are certain areas like effects of global warning, changes in economy, future geographical settings and the like which are still at exploration stage. Therefore the students need to be prepared even for unknown.

Information technology is another dimension which has a bearing on learning Social Studies in the context of learning to learn. How should it be used in Social Studies. Is it viable to be used in a larger population?

Next issue pertains to the correlation of core components in the Social Science. Neither the syllabus framers possess a clear understanding nor the teachers are equipped to deal with this particular question. What is to be included in syllabus regarding national unity, secularism, religious tolerance because these create biases and prejudices. What has been done for teaching of scientific temper in schools? Has nothing substantial been done. What were the stumbling blocks? Another very significant core component is cultural heritage. Has it been fairly interwoven in the syllabus and textbook? How much pupils could know about the Indian culture and its contribution to world knowledge? Is our teacher equipped enough to transmit it further to pupils? These are some of the pertinent issues.

Besides, the issues of work load is tremendously affecting the school system. The social science syllabus at upper primary and secondary level is particularly in focussed attention and the text-books are facing lot of criticism on that account. It is really a matter of concern and a great deal of analysis is required as to how much portion is considered to be obsolete, therefore, should be dropped but on what ground? Yet some new information and knowledge is required to be added which is worth considering as it relates to contemporary problems or some future but unknown problems. These issues need to be thrashed out in the light of new curriculum before preparing the textbook.

Yet another issue is related to the development of social personal qualities attitudes and values in children through Social Studies. No attempt has been made by the curriculum developers to identify these stagewise, therefore, neither these are reflected in textbooks nor in classroom teaching. On the contrary it is all the time being lamented that the values are not getting developed. Teachers are not conscious and cautious for this. The crux of the problem lies in the fact that unless these are specified at curricular level the entailing process will automatically leave the area unattended. Not only this an interesting problem has cropped up out of this precarious situation that if at all there is discussion for introducing these curricular concerns in schools many educationists start to reflect in terms of increased work load of the teacher and time consuming process. Probably this is the reason as to why the scheme of comprehensive evaluation could not take off in the country in its true spirit till date.

The major issue is the way of teaching of Social Studies in classrooms. Generally, the textbook approach is pervading without any involvement of the students in the development of concept. There are two obvious reasons. The first is the inadequacy of the information on the part of the teacher regarding other types of strategies of teaching and the other is lack of knowledge of the teacher regarding all the components of the subject. If a teacher is M.A. in Geography he feels handicapped in teaching the portion of civics or economics. Consequently the subject suffers because truncated correct knowledge is being delivered to the pupils and rest is left unattended or sometime wrong information and interpretations are also given to the students. This owes to the plight of the subject. Majority of the Social Studies teachers are of the background of history and political science, therefore, knowledge of students in geography is quite poor and the skills like map reading, interpretation of graph and other graphic representations are at a loss. This is the problem with the traditional approach of teaching.

The issue of innovative approaches of teaching is more cumbersome. There are two dimensions of this problem. One is the deficiency of training in the teachers. They are hardly aware of the know-how and nuances of activity approach, investigative approach, project and assignment, etc. The second is the problem of teaching aids and finances involved in the activities. If the national level institutions prepared some aids and instructional material they hardly reach teachers. If it has at all reached it is not accompanied by any handbook to give them an idea regarding its operation. Sometimes their controlling officers do not allow them to touch these aids for the reasons of their security. For example, under the scheme of Operation Blackboard the materials were provided to schools for use but instead, gathered dust.

In the light of the above mentioned weaknesses of teaching in schools a well-designed programme is needed to strengthen the effectiveness of classroom processes in schools. It is an accepted fact that the pre-service training programmes are found deficient with regard to teaching methods and procedure of evaluation. Therefore, these programmes need to be improved. Besides a number of inservice training programmes need to be organized to orient the teachers and filling the training gaps.

As far as the evaluation component is concerned, it is still the same old story. The questions are textbook-based, rote memory-oriented without giving any scope for critical thinking. Hardly any question can be classified as problem-solving and application-based. Thus, the evaluation is quite mundane and no originality and creativity is examined at any stage of schooling. Thus, the whole purpose of social science stands defeated. Here again the problem lies in lack of understanding of the teacher. He seldomly posed a question to himself as to why is he teaching social studies to the students? What does critical thinking and analytical attitude mean and what steps can be followed to develop all these? He is equally unaware of the technique of preparing balanced question paper which involves preparing design, blueprint, good questions, marking scheme and question-wise analysis. In fact the trained teachers are also deprived of this knowledge because the teacher training programmes do not lay emphasis on evaluation aspect at all. Besides, the teachers are lacking in scoring the answer scripts properly. What is that, they are emphasizing while examining the answer books? Is it spelling, vocabulary, grammar, sentence structure or the concept, its correctness, depth, analysis, interpretation and argument. Thus, the evaluation as a whole suffers. Of course, this is all related to evaluation of scholastic growth but regarding co-scholastic areas the teachers are hardly aware as to what is it all about? For this again it needs to be included in the pre-service curricula teacher training and may be correlated with the curriculum framework of school education.

Interestingly these aspects have not been touched even by policy-makers and no thought has been devoted in NPE 1986 and POA 1992.

One more problem is the problem of the attitude of the parents. In spite of the fact that the general education till Class X puts all the subjects on equal footing. Parents give more weightage to science and mathematics due to their demand for employment. Consequently, the teachers, learners and parents combined together relegate this subject in background. This affects the teaching, its innovativeness as well as evaluation procedures. Closely related to this is the problem of development of social personal qualities. Parents themselves do not believe in developing these as they are of the opinion that these can develop automatically therefore the school time should be singularly devoted in developing academic achievement. On the contrary they also lament on the fact that the pupils are not obedient, not respectful to elders and they want to be adult before time by taking decisions about their life. Thus, making life hell for parents. In this way parents are in a confused state of mind.

Some Implications for Achieving Minimal Objectives

The issues and concerns are heavily weighing on the minds of all concerned particularly curriculum framers, teacher educators and largely by educationists. As far as resolving the issues are concerned educational reforms need to be brought out in the system. For this, it is recognized by one and all that the responsibility of implementing any educational reform in class-room processes lies on the teachers. But one of the biggest barriers in translating the reforms in practice is the skill, capacity and commitment of the teachers which is generally wanting in them to play an effective role. A well-designed strategy need to be developed for capacity building of the teachers and strengthen them in various components of educative process. Following action points may be outlined under this programme in reference to social studies which may be undertaken as fast as possible:

- A definite decision has to be taken with regard to approach of organization of the content areas regarding social studies at various levels not only at national level but at state level as well while preparing the curriculum.
- The textbook along with handbook for teachers required to be developed on the pre-determined approach.

- Teacher training programmes must include the training of teachers in this approach at large scale covering a considerable majority of the teachers. A training manual covering various aspects of teaching and evaluation need to be developed for the ready reference of teachers and teacher educators. Teachers also need content enrichment in the concepts of latest development in contemporary affairs like globalization, social cohesion, cultural heritage, India's contribution to the world knowledge, equity and equal opportunity, problem of security of the country, world problems, tolerance education, peace education, etc. Besides, if a teacher has the knowledge of simply civics he will have to be trained in geography, history and economics so as to enable him to do justice with the subject in an integrated way.
- Integrated teaching should form the part of B.Ed. training programmes in two-year B.Ed courses.
- Not only teachers even teacher educators should also be oriented in this integrated approach of teaching so as to leave no scope of mishandling the proper training.
- The educational planners have to take the responsibility for the implementation of the action points along with planning. Generally, planners feel that implementation of planned strategy does not cover their jurisdiction.
- Co-curricular activities play a very vital role in developing social personal qualities of the students. There is hardly any training component infused in the B.Ed. programmes regarding this significant curricular aspect. Therefore, the rigorous training is needed for the teachers as well as headmasters to organize the co-curricular activities in an effective fashion rather depending on simply morning assembly.
- In order to develop the social personal qualities including values an awareness programme for the parents is also required otherwise they raise the hackles against bringing anything new in schools. If the pupils fail to show desirable social personal qualities they regret and blame the school but do not come to help the schools in developing these qualities in students. In fact it requires a kind of mass movement in the society where all concerned wake up to this

call then only life skill education and value education can be attained by children.

- Another very pertinent action plan has to be worked out with regard to launching of the scheme of continuous and comprehensive evaluation. First of all, all the educationists will have to speak in one voice after burying their differences. Later on a nationwide teacher orientation programme regarding its strategies of implementation in schools should be taken up. Besides, large scale positive monitoring is also needed to make it effective and successful. It is to be realized that the teachers will have to be convinced with its worth then only they would be able to implement it successfully instead they may fall the victim of mundane activity of filling the proformas and putting the ticks without making keen observations of the behaviours of the pupils.

The latest trend of paradigm shift in the teaching strategies from behaviourist approach to constructivist approach has to be taken seriously in terms of enriching the teacher training programmes through which the teachers are oriented properly. For this the immediate need is to orient the teacher educators as they themselves are deficient on this front. The research findings of cognitive sciences and developmental psychology need to be referred to develop an insight into the learning process of the child when he is constructing his knowledge by himself. Learners need to be afforded time to build their own relationship among ideas and facts. How can teachers make learning an active process for students and how he recognizes the unique profiles of individual learners and formulate lessons according to the needs and interests of children should be discussed during training. The teacher educators need to develop demonstration lessons basing on this perspective and make the teachers responsive to this fresh approach. This teaching strategy will require the different approach to assessment of learning. Unlike the traditional approach this will have to focus on understanding and the mastery of competencies rather than coverage of information which the students can recall. As is the case in the teaching process where multiple avenues are involved there needs to be multiple ways to measure performance of a deeper learning. The strategies of performance assessment also needs to be introduced and strengthened.

The education system has traversed fifty years after independence and the government made a number of efforts to bring about reforms in the system. A series of Commissions and Committees were set up, followed by two major policies on education in 1968 and 1986 along with POA 1992. Three major curriculum frameworks were brought out keeping in tune with the changing times and need of the society. Concerning social studies, lot of thought has been devoted and in view of the recommendation of Kothari Commission, the NCERT brought out a National Curriculum Framework for School Education and thereby introduced it under the banner of environmental studies and social science. This is a major break-through in the development of the subject and it gained a ground in the curriculum as a core curricular area. Still a great deal has to be done. For that a number of action points can be worked out on the basis of the nature of issues and concerns.

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Inclusive Education

NEERJA SHUKLA*

> *"The concept of 'inclusive education' has emerged in responses to a growing consensus that all children have the right to a common education in their locality regardless of their background, attainment or disability".*
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> ***Final Report, World Education Forum,***
> ***UNESCO, Dakar, 2000***

Maneesh is a fifteen-year old son of one of my colleagues in the NCERT. I have always found in him a very warm person and a good friend. My own liking for children and my initiative for establishing friendship with him when he was hardly three-year old resulted in a long bondage between us. A bright smile on his face welcomes me on the road, in the market place and everywhere he sees me. He has always been very faithfully sharing the information of each one of our encounters with his parents. But this friend of mine is very different from others as he is a student of TAMANNA, a special school for mentally challenged children in Delhi. The labeling of this child has resulted in shaping his whole personality – a shy, withdrawn child who likes to spend most of his time outside the school with his parents. I often wonder as to why this friend of mine cannot attend a common school located on our campus!

Defining Inclusive Education

I firmly believe that each and every child of any class deserves an individualized programme as each child learns in a very special way. Hence it becomes mandatory for the teacher to understand the learning needs of each child so that she could think of adopting the best suitable way of helping that child learn in the most efficient way. Sorting children always takes less effort than supporting children. According to teachers practising inclusive approach to teaching, the philosophy of inclusion hinges on helping students and teachers become better members of the society. They learn to value each other, learn together and learn to live together. In fact inclusion involves all kinds of practices that have been proved effective.

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A classroom is a mini society, which has all sorts of children: bright, dull, emotionally intelligent, tribal, first generation learners, talented, gifted, mentally challenged, physically challenged, slow learners, etc. In case we adopt one approach a substantial large section of the class gets excluded and subsequently are left behind. The philosophy of inclusion is to be practised not only by the teacher of a particular class but also by the whole school so that the whole instructional programme becomes meaningful and relevant to each child. Under this approach, students start in a general classroom and perform well as the general environment is adjusted to their needs and gives them an opportunity to realize their potential, which in turn maximizes individual growth and builds a sense of community. "Teachers today more fully recognize the value of inclusion because they see its power as an effective instructional practices. We feel that two factors are critical to the effectiveness of the district's inclusion efforts: effective collaboration among classroom teachers and the special education staff, and a weekly block of instructional planning time". (Logen, Diaz, Piperno, Rankin, Mocfarland and Bargamian, 1995). Inclusive education is a human rights issue for all, it is good education and it makes good social sense.

The Centre for Studies on Inclusive Education (CSIE), Bristol has mentioned the following ten reasons for why inclusive education should be practised:

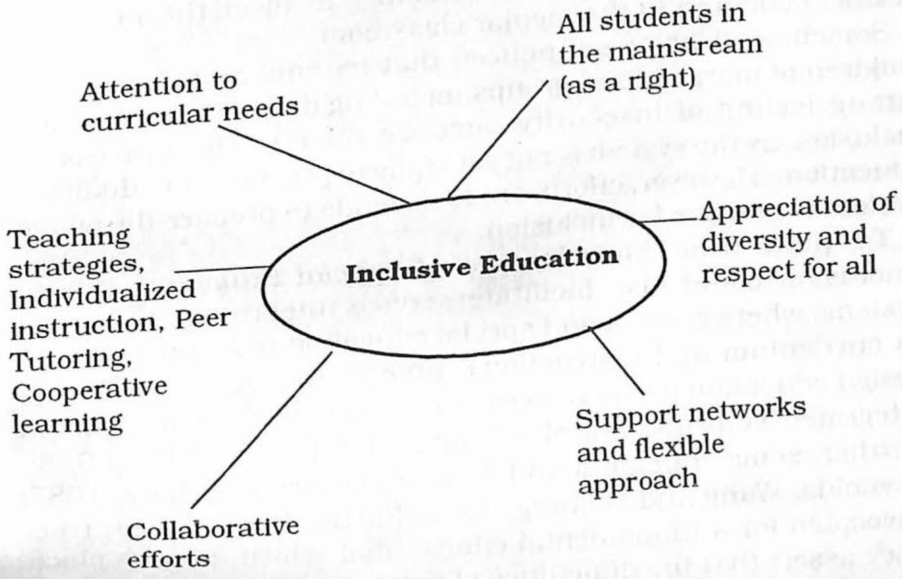
1. All children have the right to learn together.
2. Children should not be devalued or discriminated against by being excluded or sent away because of their disability or learning difficulty.
3. Disabled adults, describing themselves as special school survivors, are demanding an end to segregation;
4. There is no legitimate reason to separate children for their education. Children belong together with advantages and benefits for everyone. They do not need to be protected from each other.
5. Research shows children do better, academically and socially in integrated settings.

6. There is no teaching or care in a segregated school, which cannot take place in an ordinary school.
7. Given commitment and support, inclusive education is a more efficient use of educational resources.
8. Segregation teaches children to be fearful, ignorant and breeds prejudices.
9. All children need an education that will help them develop relationship and prepare them for life in the mainstream.
10. Only inclusion has the potential to reduce fear and to build friendship, respect and understanding.

Thus, inclusion and inclusive education is on one hand, a human right issue and on the other a strategy to develop a child into a balanced personality capable of not only surviving in a society but also to compete with others without any fear of failure or a complex. Inclusive education not only develops moral values like equity, equal opportunity, human rights and healthy and positive attitudes but also strengthens them. It leads to freedom from prejudices, be they racial or social. Thus, students who suffer the negative attitude of their classmates could avoid the painful experience. Vidur Niti states that a tongue lashed victim undergoes the pain all the time for the words of his victimizer strike him and get embedded like arrows in the most delicate parts of his being.

Since all the children share equal values and status and are part of the same society, discriminating among them on the basis of their physical condition, socio-cultural background, races or abilities amounts to cruelty towards them. In fact such experiences at the school level are the main cause of various types of prejudices and biases, which create bitterness among those living together in the same society. It is true that the child learns in the total environment: learns from her teachers, peers and elders and even from the environment itself. Therefore any classification based on the principle of segregation is not likely to produce positive results. The Salamanca Statement (UNESCO, 1994), that is very crucial to Education for All, states that every child has a fundamental right to education, and must be given the opportunity to achieve and maintain an acceptable level of learning. Besides, every child has unique characteristics, interests, abilities and learning need. Education systems should be designed and educational programmes implemented to take into account the wide diversity of these characteristics and needs. Therefore, all those with special educational needs must have access to regular schools, which should accommodate them within a child-centred pedagogy capable of meeting these needs. It further strengthens the belief that regular schools, with this inclusive orientation, are the most effective means of combating attitudes, creating welcoming communities, and in turn building an inclusive society which is bound to result in an efficient and cost-effective system catering to the needs of all, including those having special learning needs. This calls for not only making regular schools and regular classrooms available to all children including marginalized and other special groups but also reviewing and revising the existing pre-service and inservice teacher education curriculum and teacher education programmes to facilitate inclusive education. Education based on sound principles of inclusion, viz. social justice, normalization, least restrictive environment, use of age — appropriate methods and materials and the belief that all children can learn, make the task of the teacher easier.

The characteristics of Inclusive Education are schematically presented as follows:


All students in the mainstream (as a right)
Attention to curricular needs
Appreciation of diversity and respect for all
Teaching strategies, Individualized instruction, Peer Tutoring, Cooperative learning
Inclusive Education
Support networks and flexible approach
Collaborative efforts

Integration and Mainstreaming

It is important for us to understand the difference between integration, mainstreaming and inclusion. According to Fern Aefsky (1995) "Integration... was used to indicate the placement of a disabled child in a special class, in a typical school, where the student could participate in some activities with non-disabled peers (e.g. art, music, library, assembly programmes). Special education services were usually provided in a special class..... Inclusion focusses the Last Restrictive Environment (LRE) provision to keep a student in the class that he or she would attend if not disabled. Services are provided in the regular classroom unless the nature and serenity of the student's individual educational needs are such that a more restrictive setting must be considered for the child to be provided an appropriate education". Most of the parents and teachers of disabled children want all children educated in the neighbourhood school, with support services provided to the students in a regular classroom. Pear Point and Forest (1992) believe that inclusion will end labelling, special education, and special classes, but will not eliminate the necessary support and services required by children in the regular classroom. However, the parents and teachers of non-disabled children and some disabled children perceive an inability to meet the needs of disabled children in the regular classroom.

Somehow, it has been noticed that parents and teachers of children of marginalized groups including disabled ones have a strong feeling of insecurity once we refer to the process of inclusion, as the system is not yet ready to provide individualized education. However, efforts are to be made to prepare the whole system conducive for inclusion.

To quote from *Encyclopedia of Special Education* (2000) "Inclusion could also facilitate service integration in school systems where general and special education personnel, as well as curriculum and instructional procedures, are combined to design educational experiences to meet the needs of students in integrated settings (Stainback and Stainback, 1992, p.928). Further, some educators and child advocates (e.g. Lilly, 1987; Reynolds, Wang and Welberg, 1987; Skrtic, 1991) have further advocated for a fundamental educational reform to take place. They assert that the difficulties of some students in the current educational system do not reside with the students but in the organization of public schools that invite exclusion of unsuccessful students. School failure, therefore, in the result of educational programmes, settings and criteria for performance that do not meet the diverse needs of students (Stainback and Stainback, 1992). Gartner and Lipsky (1987) suggested that nothing less than a paradigm shift was necessary to precipitate a merged or unified educational system in which teachers accept the responsibility for teaching all students and adopt instruction to ensure each one is successful". However, the teacher training programmes, attitude building and support system are some of the most important factors, which, if addressed systematically, will be instrumental in making inclusion policy succeed.

What Does an Inclusive Classroom Look Like?

It is very interesting to visualize a functional inclusive classroom in the system. When we talk of an inclusive school or an inclusive classroom we tend to visualize a heterogeneous group of students, which is dynamic, interactive, and engaged in various kinds of activities being performed by the teacher and her students. Students in an inclusive classroom do not remain just passive recipients of the information being imparted by the teacher. They seem to be enjoying each activity of the classroom and do not perceive the transaction of knowledge, competencies or skills as a burden on them. The pleasant experience of working together in the classroom and healthy social relationship outside the classroom strengthens the bondage and the feeling of togetherness in a given set-up. When the child is aware that each student will be doing different things, the issue of fairness does not come into play, as it is just the ideal way things should happen. "Inclusion without resources, without support, without teacher preparation time, without commitment, without a vision statement, without restructuring, without staff development, won't work" (Mara Sapon-Shevin). Teachers and students of an inclusive classroom tend to become better members of the community through creation of new vision for communities and schools. When one has an ideal inclusive setting in the classroom, the child who needs inclusion is not singled out. Thus, the teacher and the management of a school acquire additional responsibility for creating an ideal situation in the classroom which each of its recipients finds her/his own.

Approaches to Teaching Children with Special Needs in a Regular Classroom

To provide relevant and meaningful education to groups of children with special learning needs, it is important to modify all the aspects of educational programmes being followed in common schools. To quote from the National Curriculum Framework for School Education (NCERT, 2000):

> In its theory and practice, curriculum planning offers succinct means of actualizing effective integration programmes in schools. Such efforts must identify and organize appropriate instructional objectives, content, materials, methods and evaluating devices for improved teaching experiences to follow the correction of imbalances as perceived by the children. A flexible educational system in desegregated schools accommodates wide ranges of learners' background and ability in designing improved learning experiences. The importance of individualizing instruction for all learners with special needs recommends unit concepts as a succinct means to integrate educational experiences. Curriculum planning must interrelate the facets of classroom services, special support services and personnel and co curricular activities in creating a new and vital programme which will facilitate curricular integration in its most specific situations.

Besides, this document has also mentioned that "teachers must make sincere effort to develop a relationship and an atmosphere that would generate self-motivated, self-actualizing and self-monitored learning. Instructional materials need to be produced to create new conducive conditions and provide experiences to those who, because of *de facto* or *de jure* segregation of schools, are deprived of the opportunity to have direct learning experiences. The system must ensure the empowerment of learners with special needs and their parents by building partnerships with them and by involving them at different levels of the process of inclusion, i.e. right from the stage of decision making to planning of evaluation".

Regarding education of learners from disadvantaged groups it is important for the education system to respond to specific education needs of learners from different disadvantaged sections of society. To achieve this objective it becomes necessary to integrate the socio-cultural perspective through development of positive attitudes towards various linguistic specificities and ensuring pedagogic requirement through specially devised methodology. The fundamental rights of various special groups have to be incorporated cautiously. Regarding gifted and talented children a curricular programme should be such which is helpful in identifying such children at an early stage and also nurture their diverse creative abilities by paying special attention through specially devised programme. In short, each child in an inclusive classroom needs attention of the teacher in the right perspective.

The Curriculum

David Mitchell (1999) while presenting a paper at the UNESCO workshop on the Promotion of Basic Education for Children with Special Needs has mentioned some salient features of the curriculum for Inclusive School as follows:

- As far as possible, it is accessible to all children and, as such, reflects the diverse and common desires, aspirations, interests, and backgrounds of all pupils. (Conversely, special educational needs are created when a curriculum is not accessible to all children.)

  To make a curriculum accessible the following alternatives will have to be explored in relation to content, teaching materials, responses expected from the child, and methods of assessment (JÖnsson, 1993):

    - *modification*, e.g., computer responses instead of oral responses;
    - *substitution*, e.g., Braille for written materials;
    - *omission*, e.g., omitting very complex work for children with intellectual disabilities;
    - *compensation*, e.g., self-care skills, vocational skills.
- It includes a concern for assisting children with special educational needs to develop social skills and also ability to engage in and respond to socially appropriate non-verbal behaviour. Teachers also take steps to reduce or eliminate disruptive behaviour in such children.
- Non-disabled children are helped to develop strategies for working with children with special educational needs in

integrated educational settings. To this end, 'buddy' systems may be employed.

- It includes a significant concern for assisting children with special educational needs to participate in community life and to make a successful transition to post-secondary school years.

This is not possible unless the whole educational process is reviewed and is made suitable to the learning needs of all children including those with special needs. With a view to achieve the above objective, it becomes important for the policy makers, curriculum developers, teacher educators and teachers to bring changes in the existing system covering the following aspects/ areas.

Education is a vast subject and is the prime concern of the Union Government, the State Governments and the people. The curriculum prescribed at the national level has made significant provisions for flexibility and adaptability both at the State and the grassroot level. The guidelines provided in the *National Curriculum Framework for School Education* (NCERT, 2000) have recognized the importance of the socio-cultural context and the basic nature of Indian society as a multi-culture and multi-lingual society and has emphasized upon the culture-specific pedagogies and enabling all "learners to acquire knowledge, develop understanding and inculcate skills, positive attitude, values and habits conducive to all round-development of their personality". Flexibility in using the immediate physical, social and cultural environment of the learner, selecting the right medium of instruction, contextually, curriculum adaptation and appropriate evaluation procedures are some of the important issues that have to be considered and addressed by each teacher. She is also expected to ensure that each child of her class is progressing in an appropriately planned curriculum. The concepts, constructs and ideas have to be transacted in such a way that each child is able to understand them. Individual differences in students will call for individual attention by the teacher for setting up different instructional and educational goals for each student in consultation with parents and school counsellor, if need be. Difficulty in understanding the curriculum content by most of the students can be attributed to the large number of factors, which include readability differences at the three institutional levels, i.e. the material instructional level, the teachers' instructional level, and the students' instructional level in the classroom, textbooks, curriculum presentation formats and the like. Therefore the teachers can resolve the above problem by selecting one of the following options:

- By adapting existing materials.
- By adopting alternative material prepared with an objective to attain the same competencies and skills.
- Creating new materials keeping in mind the requirement of the child and use all these material for classroom instruction.

The adaptation of written material could cover context, vocabulary and assessment methods. Various steps involved in curriculum adaptation could be: collecting information about the syllabus unit and support information; content decision, vocabulary decision, incorporation of the right language and the reading activities into worksheets; evolving a suitable pedagogy for transaction of the material; evolving suitable formative and summative procedures; techniques for continuous and comprehensive evaluation of children's achievement; and finalization of the unit in the light of the felt learning needs of the child. Evolving peer group support for such learning could be used effectively for teaching through adaptive units.

Planning for Instruction

Once the curriculum related issues have been resolved, the teacher has to concentrate on the instruction part of the educational process. Even in the classroom having a heterogeneous group of students, it is possible that only few students may face difficulties in deriving benefits from the teaching methods adopted by a teacher. The main instructional issues required to be addressed in an inclusive setting include the teaching cycle, instructional diversity and established principles of instructional delivery and support. Various sub-activities involved in evolving an inclusive instruction will cover assessment of individual learner's performance and learning needs, teaching and learning programme through specially devised curriculum adaptations with the help of demonstration guided practices and application and instructional technologies thus promoting independent practice and application, link it to the next task or skill area and evaluating achievement progress of individual learner. The mode of delivery is also equally important to determine the efficacy of transactional practices. Foreman (1996) has mentioned seven phases for designing effective teaching interventions as follows – identify curriculum priorities, establish long-term goals, analyze curriculum, identify students' performance learning, establish short-term instructional objectives, introduce effective instruction, monitor progress and review programme details. Foreman (1996) believes that planning for inclusion of all students succeed when teachers in a school are:

- aware of the Commonwealth, State Government requirements relating to the education of students with disabilities;
- aware of the services available through Commonwealth, State and community network;
- aware of the general needs of all children in the school;
- aware of the specific needs of students who may either temporarily or permanently, risk disadvantage through disability or circumstance;
- able to reflect this awareness in the development of inclusive practices within the school and within classroom.

Modification in Classroom Environment

It is important for each child to recognize the potential of all others in the classroom. This develops the right kind of attitudes in students and helps them in developing the habit of learning together and living together which are essential for co-operative learning and development of a cohesive society.

The setting up of the classroom requires a lot of insight on the part of the teacher to make the whole environment of the classroom conducive to effective learning. Students with visual impairments should be able to get a clear view of the blackboard, children with hearing impairment should be able to see the teacher so that he/she could see the lip movements of the teacher, a child in a wheelchair should have enough space to do writing work and move around if need be, a slow learner should be in a position to consult his/her peer if he/she has difficulty in understanding something, a child with a mother tongue different from the medium of instruction should be able to consult the teacher or the peer for an alternative simpler word. All these will help in development of competencies and learning various skills at a much faster pace.

Specific Initiatives for Inclusive Education

The Department of Education of Groups with Special Needs, NCERT functions as a catalyst for effecting new policy initiatives and actions at the national and state levels. The Department has significantly and systematically improved education of children with special needs in the country through the implementation of inclusive education.

The Department has evolved strategies for implementing inclusive education in the country through various programmes of Research and Development, Capacity Building, and Networking. There are researches that have already been completed and programmes undertaken to strengthen integrated education. In 1987, the NCERT undertook a project called Project Integrated Education of the Disabled (PIED) to strengthen implementation of Integrated Education of the Disabled Children (IEDC) in the States with UNICEF assistance. The thrust of the project was to place children with disabilities in ordinary schools with the help of special teachers, aids and other contextual specific resources. Orientation and training programmes for functionaries involved in IEDC implementation were planned and conducted. The Project provided funding for teacher training, equipment, books, identification and assessment facilities. It adopted the composite area approach and endeavoured to ensure community support to children with disabilities staying with their families.

The NCERT has also undertaken a number of other research and developmental projects in the area of Inclusive Schooling including the Multisite Action Research Project (1991). This project experimented using the Indian version of the UNESCO Teacher Education Resource Pack at different places. It involved 33 Coordinators from 22 Institutions and agencies. Action Research Projects for the participating institutions were planned to develop their capabilities in being change agents and building up institutional capacity to encourage the use of innovative material and strategies.

Currently, the NCERT has taken up and completed various programmes to facilitate the implementation of Inclusive Education. It is involved in conducting research and innovative action projects, development of exemplar material, guidelines, and handbooks for teachers and teacher educators, curriculum developers, educational planners and administrators. Resource materials, both in print and non-print, have been developed and are being extensively used by the States to strengthen moves towards practising inclusion. The Department also joined hands with Australia under the India-Australia Capacity Building Project for building capacity of teacher educators in the States of Orissa, Gujarat and Kerala for handling children with SEN in inclusive schools.

Inputs have also been provided by the Department in the Central Government initiated programmes like the District Primary Education Programme (DPEP) and the *Sarva Shiksha Abhiyan* Programme for the implementation of Inclusive Education in the country. In addition, the Department has recently joined hands with UNESCO for organizing a number of seminars and workshops for developing partnerships at the national and international level for promoting Inclusive Education.

Conclusion

In brief, the way schools are organized in a society reflects the thinking of the whole community and the nation. If a nation has a cohesive society and believes in human values like equity, integrity and empathy, the school curriculum will make provisions so that the products of the educational system prove to be useful citizens of the society. As Peter Cluogh (1998) has pointed out, "research into classroom learning over the last few years has moved away from a model of learning which saw the learner as a passive recipient of taught materials, transmitted often indifferently with the hope that something would 'stick'. In the 1970s learning was increasingly seen as something dynamic, which happens because individuals have particular intentions, purposes and motivations...And equally important is the understanding that individuals learn differently...they have different rhythms and paces of learning according to their different interests. This of course means that some will develop understanding more rapidly than others, and that teaching must allow for this. It also means that the potential for later learning must be respected in teaching plans and school organization".

To conclude inclusive education is not an end in itself, it is a means to attain the goal of establishing an inclusive society. Therefore inclusion places welfare of all citizens at the centre of consideration. It supports the values of belongingness, solidarity and also recognizes the difference and diversities of individual learning and views them in a dignified way thus making it a cherished goal for all those concerned with education.

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Pre-Service Education of Teachers

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History of education in India is as old as the history of man. But the history of teacher education is of recent origin. We do not find any trace of organised teacher education prior to Buddhist era. In old days a teacher (Guru) used to be a man of wisdom who got some distinction from the common man due to his vast knowledge in some areas of learning. The wisest of the disciples replaced the Guru. There existed no separate teacher training programme. The teacher learned all about teaching during the process of learning as a disciple.

Teacher Training in Buddhist Era

In Buddhist era there was no separate or identified programme for teachers' training. Those who adopted Buddhism as a religion had to learn its dictums. Those who were allowed to receive religious instructions were called *Bhikshus*. Every *Bhikshu* lived in the *Samgha* (organisation) and had to abide by certain definite instructions. During the period of training they had to live a simple life and had to stay away from the inhabited areas. The main aspect of training was by and large, limited to imbibing the values of social and moral life.

During this period all teaching was passed through the religious preachers and there were no teachers other than this category. As a matter of fact religious instructions was in itself training and those who took up this work were preparing to become the teachers.

Teacher Training during the Eighteenth Century

In reality no formal teacher training programme existed before the beginning of the eighteenth century. The oldest system was the pupil-teacher system having its genesis about the middle of

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this century. Pupil-teacher system popularly known as the "Monitorial system" was prevalent in indigenous schools. An advanced student used to be incharge or monitor of the group. "It was the duty of the monitor to give lessons to his group, assist the pupils in learning and to report their behaviour and progress to the teacher." This system was adopted by private organisations that were established by some training associations mainly to meet the need of elementary teachers.The first suprintendent of the Madras Military Asylum, Dr Andrew Bell, adopted this system in his institution (1787).

Organised Training Institutions

"The history of organised training institutions for teachers in India is associated with the Danish missionaries." These missionaries took initiative to establish separate teachers' training institutions for elementary school teachers. An institution for training teachers at Tranquebar was opened in 1716. Consequently a normal school was set-up at Serampore by Carey. Following this, different educational societies in big cities, i.e. Bombay Madras and Calcutta also realised the need for training teachers. This led to establishment of few more training centres at these places by private educational societies.

These training programmes at different places were organised only for *elementary teachers.* It was in the year 1819 that the Calcutta School Society was established. This society took up the programme for teachers' training in the Lancastrian System.

Developments in Teachers' Training in Early Nineteenth Century

Efforts so far, regarding teacher training were made by different societies or associations. The Government initiative started first when in Madras Sir Thomas Munro undertook an enquiry in 1822 regarding the state of education for the natives in the provinces. On the suggestions of Munro, a Central School for the education of teachers was set up in Madras in 1826.

There were two types of training institutions during the first quarter of the nineteenth century. All such schools to which normal classes were attached can be included in the first category. A large percentage of training schools was covered by this type of institutions. The second category consisted of schools of education or normal schools. Elphinstone Institution, Poona Sanskrit School and Sarat English School in Bombay province were the institutions to which normal classes were attached. By this time the need of training primary teachers was realised and subsequently, more training schools came into existence in the middle of the nineteenth century. A normal school was started in Calcutta in 1849. Three normal schools were started in North Western Provinces at Agra, Meerut and Banaras in 1852,1856 and 1857, respectively.

It becomes obvious that in the initial stage training classes were attached to the regular schools. Later on as the need for the trained teachers increased separate normal schools were set up to meet the requirement and to improve the quality of training.

Wood's Education Despatch, relating to the training of teachers, proceeded to consider the question of securing properly qualified teachers for schools. The recommendations of the Wood's Despatch remained as the part of the written document only. Nothing good could be achieved out of it. Later on the grant in aid rules were revised after 1859 and made provision for a salary grant to schools only for those teachers who had obtained a certificate of teacher training. Subsequently training of teachers received great incentive. But these training institutions were established in order to prepare teachers for elementary schools. Salary of these teachers was very low. Only those persons who completed primary education entered the profession. Duration and curriculum of training differed from province to province. Since the teachers were simply elementary pass and they had to impart education to the classes of their own level of knowledge, the main emphasis, in their training, was on subject-matter. The system of training adopted in the earlier period was the Lancastrian system. Later on, a system of apprenticeship was introduced and the pupil-teacher was attached to an experienced teacher for a fixed period.

By this time two training colleges were set up for secondary school teachers. The first was Government Normal School, Madras (1856) and the second was Lahore training school (1877). The main feature of these institutions was that graduates and undergraduates were admitted to these institutions and they were all treated as one class. Main concentration of training was on knowledge and very little attention was paid for the development of professional skills.

These two training schools produced a very limited trained secondary school teachers. Perhaps this was due to two main reasons. Firstly, the number of graduates admitted to training schools was very low and secondly, it was a matter of controversy at that time whether secondary school teachers do require any training or not. *The Indian Education Commission (1882)* recommended in this regard that an examination in the principles and practice of teaching be instituted, success in which should thereafter be a condition of permanent employment as a teacher in any secondary school, Government or aided.

Graduates wishing to attend a course of instruction in a normal school in the principles and practice of teaching be required to undergo a shorter course of training than others. In spite of these recommendations of the Commission a very few new training institutes came into being. In 1901-02, there were six training colleges (as against two in 1882) and fifty training schools for secondary teachers in the country.

Teacher Training during the Twentieth Century (Pre-Independence Period)

The Government of India Resolution of 1904 says, "For graduates, the training course should be one-year University course, leading to a University degree or diploma directed towards imparting to them a knowledge of the principles which underlie the art of teaching and some degree of technical skill in the practice of art. For others it should be a two-year course, embracing the extension, consolidation and revision of their general studies to make them capable teachers. The theory of teaching and it's practice should go side by side and for this purpose a good practising school should be attached to each college. There should exist a close link between the training college and the school so that the students on leaving college and entering upon their career as a teacher may not neglect to practise the methods which they have been taught. But even after seven decades the educational policy has failed to maintain a link between the training colleges and the schools.

The period from 1905 to 1921 witnessed an unprecedented expansion in secondary education and the main official attempt aimed at quality. *The Government Resolution of 1913* provided an impetus to improve the quality of secondary teachers' training. It emphasised that no teacher should be allowed to teach without a certificate that he has qualified to do so."

The Sadler Commission (1919) laid down that the output of trained teachers should be substantially increased; Departments of Education should be created in the Universities of Dacca and Calcutta; Education should be included as a subject for the intermediate, B.A. and M.A. degree examinations. This helped in increasing the number of training institutions, the problem of training of primary teachers had received considerable attention especially in the period 1901 to 1921. The main events of this period may be listed as below:

- The Government accepted its responsibility for training primary teachers;
- Large number of Government training institutions came into existence;
- The Government also provided substantial financial assistance to promote training institutions.

Regarding the service conditions and training of teachers **the** *Hartog Committee (1929)* emphasised the importance of pay and conditions of service of teachers.. The committee further recommended that the standard of the general education of primary teachers should be sufficiently staffed and made more efficient; refresher courses and conferences of primary teachers must be frequently arranged.

It may be mentioned here that the recommendations of different committees set up so far did not bring uniform results in all the provinces. Provincial policies of this period influenced many moves as regards the improvement in teachers' training. States having a sound economic background received more assistance from public and other social organisations for setting up teachers' training institutions. Likewise teacher training received impetus where facilities for higher education existed.

The rate of growth of teacher training institutions was also governed by the view that quality has prior claim over quantity. Subsequently there was some improvement on the training of teachers; the percentage of trained teachers rising from 44 in 1927 to 57 in 1937. Qualitative approach did also bring several changes in the curriculum of training institutions mainly in the teaching methodology. In some provinces an attempt was also made to recruit more suitable candidates for training institutions.

The Sargent Report (1944) for the first time suggested a set teacher-pupil ratio at Pre-basic and Junior Basic Schools. It also recommended the minimum qualification for the recruitment of teachers for training. Regarding the recruitment and training of teachers the report assumes that one teacher should be required for every 30 pupils in the Pre-basic and Junior Basic Schools course followed by a training of two years in case of teachers in Pre-basic and Junior Basic Schools and three years' Senior Basic Schools. The non-graduate teachers in high schools were expected to undergo a training course of two years and the graduates would receive one year's training.

Like other committees and commissions headed by English oriented persons, the *Sargent Report* founded its main recommendations on the basis of their existing system of teachers' training programme in England. The report itself admitted India would reach the educational standard of the England of 1939 in a period of not less than 40 years. The report perhaps assumed that no one should be appointed as a teacher unless he has had received the prescribed minimum of general professional qualification. Such an ideal line of demarcation had hardly any justification in the past experiences of this country. Under the prevailing circumstances it was the need of the time not to prevent or postpone the expansion of education. It ought to have been possible for India to commence a programme of educational development with such men as were immediately available and simultaneously to work out a programme of improving and training the personnel of the teaching profession.

Post-Independence Period

The problem of the training of secondary school teachers was considered by the *University Education Commission (1948-49)* which suggested that—

- The courses should be remodelled and more time be given to school practice in assessing the students' performance.
- Suitable schools should be used for practice training.
- Students should be encouraged to fall in these courses, with the current practice of a school and make the best of it.
- The bulk of the staff of training colleges should be received from people who had the first-hand experience of school teaching.

- The courses on the theory of education should be flexible and adaptable to local circumstances.
- Students should be encouraged to proceed to the Master's degree only after some years of experience teaching.
- Original work by professors and lecturers should be planned on an all India basis.

In 1950 The First Conference of Training Colleges in India was held at Baroda to discuss programmes and functions of training colleges. Teacher training was given a new nomenclature and it became 'teacher education'. After this conference there was a spurt of workshops, seminars and conferences on teacher education. The syllabi in the teacher education were revised, new specialisation were added and emphasis was laid on enhancing practical work.

The Secondary Education Commission (1952-53) analysed the problems of teacher education programmes in greater depth. It observed that the teacher's personal qualities, his/her educational qualification and professional training and the status he/she occupies in the school as well as in the community, are most important to be cared for. The commission made recommendations on all these aspects.

It observed that three types of teacher training institutions existed but recommended only two types of teacher training institutions:

(a) Primary (Basic) Teacher Training Institutions for those who had taken the school leaving certificate or higher secondary school leaving certificate for whom the period of training should be 2 years; and

(b) Secondary Teacher Training Institutions for graduates for whom the training could be for one academic year.

Graduate teacher training institutions should be recognised and affiliated to the Universities which should grant degree. The trainees must receive training in one or more extra-curricular activities and the training institutions should arrange refresher courses, short intensive courses in special subjects, workshops and professional conferences. Training colleges should conduct research in various important aspects of pedagogy and for this purpose should have under their control an experimental or demonstration school. No fees should be charged from trainees rather they be given suitable stipends by the states. Special part-time training courses should be organised to meet the shortage of women teachers.

Hence in the First Five Year Plan (1951-56) emphasis remained on *Expansion of teacher training* programmes. Many extension service centres in both primary and secondary teachers training institutions were opened. Need for improvement of secondary school teachers was felt and All India Council for secondary education was established in 1955. Consequent upon it,24 extension centres were started.

Second Five-Year Plan (1956-61) emphasised on increasing training facilities for teacher. In 1957 all India Council for Elementary Education was formed. The Directorate of Secondary education was established in 1959 to coordinate and run extension programmes. The NCERT was established in 1961. In 1959 the Central Institute of English was established at Hyderabad to train teachers in English and conduct research in that field.

During Third Five year plan (1961-1966) there remained an emphasis on expansion of teacher training programmes. Steps were also taken to recognise and strengthen the training college programme in order to *align it with the current needs of the secondary school system.* Special emphasis was given to pre-service training of teachers in science and social studies.

For qualitative improvement introduction of new techniques of evaluation, provision for a variety of special subjects such as guidance and audio-visual education was made. Research in teacher education programmes was emphasised. Almost all the states revised the pay scale of teachers.

For improving status of teachers (administration) the institution was established for imparting national awards for teachers for outstanding work in the field of teaching. Inservice programmes got impetus. The main emphasis during this plan remained to improve service conditions of teachers along with expansion of teacher education programmes. During this period the Committee on Plan Projects (COPP) set up a study team for selected educational schemes in 1961. It submitted its report in 1964:

- The training colleges contributed only normally to educational thinking.

- The training colleges had inadequate laboratory facilities and teaching equipments.
- There was no room for experimentation and innovations in teacher education programmes.

Hence State institutes were established in all the states in 1964 to assist inservice programmes of NCERT.

During Five-year Plans of sixties the teacher education programmes started on a note of *new ventures and ideas.* The first National Seminar on the Education of Primary Teachers was held in October 1969. The observations made were that there was a sad state of affairs in the teacher training programmes viz: The supply of trained teacher was not correlated to the requirements,The training institutions were not well-planned, The small institutions were poorly staffed and equipped.

It recommended that every teacher should be trained, State governments should plan a phased programme to attain this target. Some training institutions be selected as models for developing primary teacher education on the right lines.The optimum size of the training institutions should be 200 trainees. Primary school teachers should also be included in the extension programmes.During this period NCERT established four regional college of education at Ajmer, Bhapal, Bhubaneswar and Mysore.

In 1964 Seventh Conference of All India Association of Teacher Colleges it was resolved that comprehensive Colleges be set up to bridge the gulf between primary and secondary teacher training institutions. State Councils of Teacher Education should be set up to impose restrictions on improportionate expansions in order to improve quality of teacher education programmes.

The Indian Education Commission (1964-66) endorsed the observation of previous reports and highlighted weaknesses of the existing system of teacher education and suggested ways to improve it.

In the *area of service conditions / administration* it recommended that advance increments for teachers doing outstanding work ; secondary teachers with necessary aptitude and competence should be appointed as university and college teachers. Isolation of teacher colleges from the universities, schools and teacher colleges themselves be removed. The principle of parity should be adopted in private schools and the terms and conditions be the same as in government schools. Teachers should be free to exercise all civil rights and be eligible for public office at the local, district, state or national level. The employment of women teacher be encouraged.Teachers in tribal areas should get a special allowance.

For *qualitative improvement* it recommended: Subject orientation and introduction of integrated courses of general and professional education. Difference between theory and practice should be eliminated. A demonstration school must be attached to every training institute. Teachers must be provided with magazines which deal with educational problems. Experiments in teacher education must be encouraged. No student should be allowed to specialise in teaching a subject unless he had studied it in B.A./B.Sc.

For the *general strengthening* of the entire organisation of teacher training at the state and national level, it recommended that all state governments should prepare a plan for the expansion of training facilities. At the national level, the UGC should take the responsibility for maintenance of standards in teacher education. At the state level, the State Boards of Teacher Education should take this responsibility. The UGC in collaboration with the NCERT should set up a joint standing committee for teaching training. The Centre should provide liberal funds to the UGC and to the State Governments for the development of teacher training.

Most of these recommendations had been implemented. An M.A. degree in education was introduced in some universities like Aligarh, Kurukshetra and Kanpur, etc. Some universities had introduced summer schools and correspondence courses to meet the backlog of untrained teachers. State Boards of Teacher Education were set up by some states. These changes were considered welcome steps in the field of teacher education and could meet some of the needs in this field.

By this time *the National Policy on Education (1968)* was adopted by the Government. It emphasised and recommended that the employment and other *service conditions of teachers* should be adequate and satisfactory having regard to their qualifications and responsibilities. *Academic freedom of teachers* to pursue and publish independent studies and researches and to speak and write about significant national and international issues should be protected. *Teacher's education (in-service)* should receive *due emphasis.*

During the seventies, there was much emphasis on implementation of the new pattern of school education, i.e. 10+2+3. This necessitated a rethinking of reorganising and redrafting the programmes of the teacher education. Simultaneously, the Fourth Five Year Plan (1969-74) emphasised on improving standards of teacher's education at each level and recommended to organise a large number of inservice educational programmes especially for maths and science teachers, more women teachers be trained, greater coordination between the NCERT and the SIEs be maintained for qualitative improvement in school education. Funds should be placed at the disposal of the UGC to improve the physical facilities of departments of education in universities and of secondary training colleges and upgrading the professional competence of the teacher educators working in them.

For the first time, improving professional competence of teacher educators was realised. In 1973, the Government of India took a very bold and imaginative decision to set up a body called National Council for Teacher Education (NCTE). This Council was expected to work as a national advisory body for teacher education.

At its first meeting held in December 1973, the NCTE suggested the following:

- Formulation of standing committee for pre-service education, elementary education, secondary education, technical and vocational education and work experience, in-service education and standards in teachers' education.
- Setting up a working group to report on the present conditions of teacher education in India.

In March 1976, at its annual meeting the NCTE desired that a joint session of UGC and vocational committee of NCTE should consider the programmes of the teacher education. After much deliberations a curriculum for preparing teachers for the new 10+2 pattern was worked out. It proposed that if education is meant for national development which in our country can be achieved mainly through rural development, it must become an instrument of transforming the social structure, as envisaged in the Constitution. Education must reach all citizens, particularly in rural areas. Universalisation of education has, thus, become the most important task to be undertaken by the community. This immediately demands that a fundamental change be effected in all aspects of Teacher Education, i.e. objectives, structure, curricula, methods, modes and media, evaluation techniques, staffing pattern, administrative machinery and control of teacher education in the country.

Characteristic Features of Teacher Education Curriculum—A Framework (1978)

The following characteristics were considered important to form the basis of development of such a curriculum.

It emphasised that education must become an effective instrument of social change and teacher has to be an agent for this transformation. This necessitates that the education imparted has relevance to the personal as well as social life and to the needs and aspirations of the people. It is in this context that the relevance of the curriculum of teacher education should be viewed.

In order to be a catalyst in the process of developing a citizen who is productive, believes in social justice and rational integration and possesses values befitting a democratic, socialist and secular society, the teacher himself needs to become such a citizen through appropriate learning experiences. This requires that the pedagogical theory should reflect our national ideology and the problems and issues that our society is facing. The content and methods of teaching all the courses should be made relevant to Indian conditions.

It was, therefore, suggested that there must be a flexibility within the framework of acceptable goals and values. Multiple teacher education modules should be developed catering to the needs of the states and local communities within a broad and comprehensive guidelines. For a vast country like ours, with its diversity of languages, social customs and uneven economic development, the needs and demands of the individuals and the society will have differential pulls on the school curriculum varying from one region to another and for which the teacher has to be trained.

To coordinate teacher preparation with school curriculum, to break barriers existing between the stage-wise teacher education programmes to maintain the continuity of teacher education and also to remove isolation from one another, a broad comprehensive model of teacher education should be developed with some common components (for all stages) and some components which may differ from stage to stage.

The curriculum, therefore, recommended for all stages be categorised into three areas:

- Pedagogical Theory
- Working with the community
- Content-cum- Methodology of Teaching School Subjects and Practice Teaching.

Pedagogical Courses with 20 per cent weightage comprise the subject matter drawn from different natural and social sciences to provide fundamental knowledge and understanding of our social structure, national goals, human nature, physical, mental, emotional and social growth and development of children from neonate to adult age. It consisted of two components:

- *A core course* Teacher and Education in Emerging Indian Society intended to develop an understanding of his obligation to the nation in general and to the community in particular as a teacher may remain he same for all stages, although the major principles might be explained with numerous local examples.
- *Special Courses* may differ from stage to stage and were designed so that they cater to the specific needs and requirements of each stage, e.g. a course on growth and development during infancy and childhood could be a part of the curriculum for the pre-school level, a course on adolescent psychology would be relevant for teacher working in secondary school, etc.

Working with the community was given a weightage of 20 per cent: This area of the curriculum was designed to develop the right kinds of attitude, appreciation and values, to provide *actual life experiences* to verify and validate theoretical knowledge. The trainee at all stages be exposed to complex socio-economic problems through actual *work situations* in the society, e.g. work situations like working with self-employed artisans, launching non-formal programmes of education for adults, school drop-outs, clearing immediate surroundings, helping village people in digging a well, etc. Any work situation that may bring teacher-trainee in close contact with people particularly with those belonging to the under-privileged sections. Stage-wise work situations have been identified in the document.

Content-cum-Methodology Courses: The rationale of assigning 60 per cent weightage to this area of curriculum was based on the observations that the methods are simply preached and rarely practised, advances in educational technology demand a change in methods, a significant portion of the curriculum at 10+2 stage demands the introduction of new content and unconventional methods.

A variety of package programmes have been developed based on (i) *Core Skills* indispensable for all types of teachers, and (ii) *Specific Skills* necessary for teaching different subjects at different age levels. e.g. a core training package may comprise skills such as B.B. writing, oral expression, use of common audio-visual aids, preparation of instructional material. Whereas special training package may contain skills such as dramatising a story, singing, acting a lyric (pre-school, primary trainees) and demonstrating, stimulating, discussion, experimenting, etc. (secondary trainees).The structure of curriculum for each stage has been proposed according to the development of children.

The NCTE Framework (1978) suggested four models at pre-primary stage:

(1) A Two-year (Four Semesters) Professional Education Course after Class X (72 credit hours)

(2) A Two-year (Four Semesters) Academic Course after Class X, at the +2 level of Higher Secondary Stage with a further two semesters of education combining all the major areas (Three years)

(3) A Two-year (Four Semesters) Vocational Education Course after Class X.

(4) A Two-year (Four Semesters) Course in Education as a discipline.

Emphasis at *Primary stage* is on literacy, numeracy and other social and emotional level objectives. Teacher training course for primary stage is open to matriculates and is of two years, duration. The first year is devoted to the subject matter and second to the methodology of teaching. This training leads to a certificate or diploma (J.B.T.) Junior Basic Teachers' training or D.Ed (Diploma in Edu) or T.D (Teaching Diploma).

It proposed five models of training (structures) for primary stage.

- A Two-year (Four Semesters) professional education course after Class X

- A Three-year (Six Semesters) course after Class X
- A Two-year (Four Semesters) Vocational Education course after Class X
- A Two-year (Four Semesters) course in education as adiscipline
- A One-year (Two Semesters) course after graduation.

For teaching at the *secondary stage,* the teacher training courses require graduation as basic eligibility qualification and offer one-year course leading to B.Ed. degree. Apart from this one-year course, four-year integrated courses continue in the four Regional Colleges of Education at Ajmer, Mysore, Bhopal and Bhubneswar.

The NCTE Framework proposed the structures of Post-graduate Teacher Training Courses leading to M.Ed amd M. Phil.The emphasis was entirely on Pedagogical Theory. For M.Ed., it suggested: Foundation Courses 20%, Research Courses 20%, Theoretical Courses 60%, Task-Oriented Courses 60% and for M.Phil, it suggested Research Courses 50%, Theoretical Courses in one area of specialization 50%.

Based on the NCTE's Curriculum Framework, the Centre of Advanced Study in Education, Baroda, in association with the Department of Teacher Education of the NCERT undertook studies to develop programmes of skill-based teacher education. An innovation, Microteaching was successfully tried and was used to develop professional skills of training and teaching. The NCERT took this innovation all over the country. The report of this programme indicates the success of the integration approach. The curriculum was again revised in 1988 by the same committee.

These developments were accompanied by the publication of reading materials for the teacher educators. The material was in the area of student teaching, evaluation of student teaching, off campus programmes in teacher education, training teachers in socially useful productive work, training in teaching skills. A brochure on microteaching prepared by CASE was translated into regional languages.

The year 1976 had witnessed a change in the government at the centre and the states (The Janata Government took over). Within three years the Janata Government changed. The quick changes brought a commitment to education and thus, some important changes were witnessed in the eighties. Before 1976, education was the exclusive responsibility of states. The Central Government was only concerned with certain areas like coordination and determination of standards in technical and higher education, etc. In 1976 through a *Constitutional Amendment* education became a joint responsibility. Decisions regarding the organisation and structure of education are largely the concern of the states. However, the Union Government has a clear responsibility regarding the quality and character of education. In addition to policy formulation, the Ministry of Human Resource Development, Department of Education shares with the states the responsibility for educational planning. The Central Advisory Board of Education (CABE) continues to play a lead role in the evolution and monitoring of educational policies and programmes, the most notable of which are the *National Policy on Education* (NPE), 1986; *Programme of Action* (POA), 1986 and a revised NPE and POA (1992).

National Policy on Education (1986) and POA (1986)

With the changing scenario and variety of new challenges and new needs it became imperative for the Government of India to formulate and implement a new Education Policy for the country. It made following recommendations for the teacher and teacher education. As the first step, it suggested *the system of teacher education will be overhauled.*

The *status of the teacher reflects* the socio-cultural ethics of a society; it is said that no people can rise above the level of its teachers. The Government and the community should endeavour to create conditions which will help motivate and inspire teachers on constructive and creative lives. Teachers should have the freedom to innovate, to devise appropriate methods of communication and activities relevant to the needs and capabilities of and the concerns of the community.

The *methods of recruiting teachers* should be reorganised to ensure merit, objectivity and conformity with spatial and functional requirements. The pay and service conditions of teachers have to be commensurate with their social and professional responsibilities and with the need to attract talent to the profession. Efforts should be made to reach the desirable objective of uniform emoluments, service conditions and grievance-removal mechanisms for teachers throughout the country. The report also suggested that guidelines will be formulated to ensure objectivity in the postings and transfers of teachers. A system of teachers' evaluation—open, participative and data-based— will be created and reasonable opportunities of promotion of higher grades provided. Norms of accountability will be laid down with incentives for good performance and disincentives for non-performance. Teachers will continue to play a crucial role in the formulation and implementation of educational programmes.

Teachers' associations must play a significant role in upholding professional integrity, enhancing the dignity of the teacher and in curbing professional misconduct. National level associations of teachers could prepare a *Code of Professional Ethic for Teachers* and see to its observance.

Teacher Education is *a continuous process, and its pre-service and inservice components are insparable.*

District Institutes of Education and Training (DIETs) will be established with the capability to organise pre-service and inservice courses for elementary schools teachers and for the personnel working in non-formal and adult education. As DIET gets established, sub-standard institutions will be phased out. Selected Secondary Teacher Training Colleges will be upgraded to complement the work of State Council of Educational Research and Training. The National Council for Teacher Education will provide the necessary resources and capability to accredit institutions of teacher education and provide guidance regarding curricula and methods. Networking arrangements will be created between institutions of teacher education and university departments of education.

The operationalisation of NPE formulations was worked out through POA (1986). It suggested operational step for each component of teacher education as follows:

Professional training of teachers to be employed in elementary and secondary schools became a pre-requisite in all parts of the country. The requirement could be waved only in areas or among groups where there is a severe shortage of teachers. It was pointed out that a large numbers of the teacher education institutions suffer from inadequate facilities—human, physical and academic —to provide good professional education. Curricula remained unrevised for years, reading lists were out of date and practices adopted by the teacher educators in direct contradiction to ones being prescribed to prospective teachers.

Keeping in view the central place of teacher education *NPE called for its overhaul* as the first step towards educational reorganisation. It was envisaged that selected institutions would be developed as *District Institutes of Education and Training (DIETs)*, both for pre-service and inservice courses of elementary school teachers and for continued education of the personnel working in non-formal and adult education programme. Reorganisation of secondary teacher education system was also implied in the policy.

Reorganisation of Elementary Teacher Education

An important change in the educational system was proposed to be brought about by the radical transformation of the present system of Elementary Teacher Education. The functions of an Elementary Teacher Education institution (DIETs) would include:

- Pre-service and Inservice Education of teachers for the formal school system.
- Induction level and continuing education of Non-formal and Adult Education and Instructors and Supervisors.
- Training and orientation of heads of institutions of institutional planning and management and micro-level planning.
- Orientation of community leaders, functionaries of voluntary organisations and others influencing school level education.
- Academic support to school complexes and District Boards of Education.
- Action Research and experimentation work.
- Serving as evaluation centre for primary and upper primary schools as well as Non-formal and Adult Education Programme.
- Provision of services of a resource and learning centre for teachers and instructors.
- Consultancy and advice, for example, to DBEs.

Each State Government will set up immediately *a Task Force for making* an assessment of the number of institutions of this nature required in the state keeping in view the various relevant

Programmes of Action. The Task Force will also identify the existing institutions which can be developed as District Institutes of Education and Training. As DIETs' get established, sub-standard institutions would be phased out.

The Head of a DIET would be of the status of a principal of a degree college/B.Ed. College and most of the faculty members would be persons with background in elementary education. Special selection procedures will be established to ensure that the ablest persons are selected, given higher scales of pay and are reoriented in cooperation with NCERT, NIEPA, SCERT, University Department of Education, some outstanding teachers' etc. The NFE/Adult Education District Resource Units would be an integral part of DIET for which additional faculty will be provided on this programme. The Central Government will meet a major share in funding.

Faculties of latest technology such as computer-based learning, VCR, TV, etc. will be provided at DIETs. The teachers receiving training at DIETs would be encouraged to develop their own programmes using the facilities available at DIETs and to use these materials as instructional resources. Capability for making copies of video cassettes, audio cassettes, etc. would also be provided in these institutes. Besides, imaginative use of traditional teaching aids would be emphasised and teachers encouraged to improvise their own instructional materials.

Secondary Teacher Education:The responsibility for secondary teacher education would *continue to rest with Colleges of Teacher Education affiliated to Universities.* The University in cooperation with NCTE will exercise responsibility for academic aspects including conduct of examinations, award of degrees and ensuring quality of secondary teacher education institutions. These institutions would also be responsible for continuing education programmes for secondary teachers. *Some colleges of Teacher Education will be developed as comprehensive institutions* organising programmes for primary teacher education and possibly also, 4 years' integrated courses after higher secondary stage, in addition to the usual B.Ed./M.Ed. courses.

These comprehensive institutions would also be provided facilities and staff for undertaking research and to supplement the efforts of State Council of Educational Research and Training (SCERT). In order to promote an experimentation, good colleges and departments of education of universities will also be given autonomous status. It was stated that NCTE will be given a statutory status and necessary resources to play its role.

NPE (1986) envisaged a review of the implementation of various parameters of the policy every five years. The National Policy of Education Review Committee (NPERC-1990) tabled its report in both the houses of Parliament in January 1991. The CABE Committee Report (1992) examined the procedures suggested by NPERC and sought comments of various State Governments, UT administrations. Comments from 15 States and UTs were received and a draft report was submitted and got approval in the Parliament (CABE-1992). CABE 1992 made an observation that operational matters suggested by NPERC did not require any reformulations of NPE. It endorsed all the suggestions of NPERC with regard to teacher education with a lone exception to introducing a licencing system for teachers. It felt that administrative chores to be attended to in a licencing system of the type envisaged by NPERC would be stupendous. The coverage of four million teachers would require the creation of a cumbersome regulatory bureaucracy which cannot but vitiate the academic environment. Hence licencing of teachers as suggested by the NPERC was not, therefore, desirable.

It endorsed the operationalisation of other relevant NPE formulations through Programme of Action (POA-1992) and made following regulations.

Programme of Action-1992

(a) Centrally Sponsored Scheme of Teacher Education: It proposed that keeping in view the desired goal of providing in-service training to all teachers at the interval of five years, the existing scheme of Teacher Education will be modified and continued. While an attempt will be made to provide maximum coverage through DIETs/CTEs/IASEs, special orientation programmes for teachers will also be launched and Teachers' Centres and School Complexes will be tried out on pilot basis the emphasis under the training programmes will be on training in the use of Operation Blackboard materials and orienting the teachers towards Minimum Levels of Learning (MLLs) strategy with a focus on teaching of languages, mathematics and Environmental Studies.

Under the DIETs, all the districts in the country will be covered by the end of the Eighth Five Year Plan; about 250 CTEs/TASEs will be set up by that period. Efforts will also be made to provide programme support to other SCERTs and also to develop training institutions not covered under the DIETs/CTEs/IASEs scheme. The SCERTs will be made independent and autonomous, overseeing the functioning of DIETs, DRUs, etc. and the NCTE will be conferred autonomous and statutory status and State Boards of Teacher Education will be set up for effective role in maintaining the standards of teacher training institutions and other related functions.

Efforts will also be made to provide training for pre-school education. In the area of secondary teacher education, some of the better existing institutions will be provided programme support so that benefit of inservice training could be provided to a larger number of secondary teachers. This will be in addition to the existing scheme of CTEs/IASEs.

A special programme will be launched for preparation and production of teaching-learning materials for teacher education in different languages.

(b) Teacher Educators: The existing programme for teacher educators will be suitably modified taking into account the present day training needs. The induction and continuing training programmes for the DIETs/CTEs/SCERTs faculty will be designed and implemented by the NCERT, NIEPA, etc.

(c) Special Orientation for School Teachers: In order to achieve the desirable goal of in-service training of all the teachers within 5 years, special orientation programes for teachers will be launched covering about 4.50 to 5 lakh teachers per year. Before launching the programme, detailed exercise for management, curriculum, teaching-learning materials, including audio-visual materials, etc. will be undertaken. Use of distance mode of training will be encouraged in these programmes and all other programmes of inservice training of teachers. The programme will be implemented by the NCERT through SCERTs and DIETs with other national level institutions also providing necessary input. Under this programme as well as under the training programmes conducted by the DIETs, the emphasis will be on training the teachers in the use of Operation Blackboard materials and orienting them towards the MLL strategy with a focus on teaching of language, mathematics and environmental studies.

(d) Strengthening of SCERTs: A revised scheme for strengthening of SCERTs for making them independent and autonomous and

by providing norm-based non-receiving assistance and receiving assistance on a long-term basis, will be formulated.

(e) Establishment and Strengthening of Departments of Education in the Universities

(f) National Council for Teacher Education: The NCTE will be provided statutory status.

Present Scenario

The National Council for Teacher Education (NCTE) Act 1993 (No.730/1993) was brought into force with effect from 1 July 1995 by the formal notification in the Gazette of India. The General Body is the apex body of the NCTE, for the formulation of policies regarding elementary secondary teacher education programmes in the country.

The main functions of the NCTE envisaged in the Bill include:

(i) To lay down norms, standards and guidelines for teacher education courses and for institutions conducting such courses and to see to their observance;

(ii) To promote coordination and linkages among various constitution of teacher education system and other related systems, promote innovation and research in all areas of teacher education and the dissemination of their results and to promote the status of teacher education in the country.

(iii) To lay down norms, standards and guidelines for programmes of continuing education and professional development of teachers and teacher educators and training and education of personnel of adult and non-adult non-formal education;

(iv) To advise the Central Government, State Governments, UGC, Universities and other agencies in all matters relating to teacher education and its development especially in regard to priorities, policies, plans and programmes. States Boards of Teacher Education will also be set up to help in this direction.

The NCTE has laid down the norms, standards and guidelines for teacher education courses at all levels, viz. elementary, secondary and post-graduate courses in education. The institutions conducting such courses have to get accredited (recognised) by the NCTE without which the conduct of these courses would be stopped. Teams of experts from various universities are deputed to inspect the institutions against the norms and standards set by the NCTE. The NCTE has established four regional committees to cover the northern, southern, eastern and western regions of the country and has laid down their territorial jurisdictions. The Regional Committees are looking after accreditation process.

There are separate norms for teachers' training courses through Distance Mode. But all institutions regular or Distance Channel can run these courses only if they have been recognised by the NCTE. The NCTE had circulated an instruction all over the country that such institutions must apply for recognition up till 1997 which was later extended up to March 1998. The process is still going on.

Elementary teacher training courses are being looked after by DIETs through SCERTs, but these too have to abide by norms set by the NCTE. The process of accreditation for elementary, secondary and post-graduate teachers' training courses is the same. This process has helped in phasing out sub-standard practising institutions and has put restrictions on improportionate expansions.

After Independence, there have been many efforts to indigenise the system of teacher education. Considering the fact that the educational system which was prevalent at time of Independence, was accepted as such largely because an abrupt departure from the existing system would have been disturbing and destabilising. Thus changes made thereafter were mainly rearrangements. These rearrangements resulted into gaps and imbalance in the system.The NCERT had realised the existence of these gaps and also the fact that teacher preparation programmes were running of the requirements of school education. An attempt was made to remove this gulf through curriculum (1992). It was observed by the NCTE (Curriculum Framework for Quality Teacher Education-1998) that the gaps in the existing system should be bridged so that—

- an indigenous system of teacher education is involved based on India's cultural ethics, its utility and diversity synchronising with change and continuity.
- To facilitate the realisation of the constitutional goals and emergence of the social order.

- To prepare professionally competent teachers to perform their roles effectively as per needs of the society and match with the school education programmes.
- To upgrade the standard of teacher education, enhance the professional and social status of teachers and develop in them a sense of commitment.

Currently, new thrusts have been posed due to rapid changes in the educational, political, social and economic contexts at the national and international levels. Some new contexts and concerns made it imperative to draft Curriculum Framework for Quality Teacher Education (1998).

The draft focusses around these national contexts and concerns, general and specific objectives of teacher education and suggests curriculum which reflects Indian heritage, acts as an instrument in the realisation of national goals and fulfils aspirations of people. It suggests stage-wise specific objectives, curriculum framework, Rationale, Transaction of the curriculum, Pedagogy, Practicum, Evaluation procedures for Early Childhood stage, Primary stage, Elementary stage, Secondary stage Senior Secondary stage — academic and vocational streams. Apart from these the curriculum has been suggested for Inservice Teacher Education, Non-formal Education, Adult Education and Distance Education, for teachers of students with special needs and for teachers of physical education and teacher educators.

For the implementation it has been suggested that—

- NGOs working in the field of education and other welfare activities may be involved.
- Education Secretaries, DPIs, Principals of DIETs, CTEs, Directors of SCERTs,Chairmen of Faculties of Education, Departments of Education, etc. should actively participate into its implementation.
- Establishment of State Boards of Teacher Education (SBTEs) be revived.
- The SBTE in collaboration with SCERT's and NCTE may draw state level long-term plans to ensure that—
    - Pre-service and inservice become mandatory and mutually reinforcing.
    - Every teacher gets an opportunity to participate in in-service programme.

- Multi-channel learning should be fully utilised.
- Quality study materials be developed and made available to all teacher resource centres.
- Each university or State Boards need to evolve micro-level monitoring.

The NCTE suggested that without imposing a very rigid and uniform management system, the regional variations and cultural diversities of Indian society may be considered to implement the curriculum. Since alternative models of teacher education have also been proposed in the document, any institution may select one or the other for implementation after due consideration of the possible professional gains and availability of resources and expertise. The type of alternative courses offered by different states (recognized by NCTE) has been given below .

Pre-primary Teacher-Training Courses

(Teachers of Bal Vihars, Kindergarten, Montessories, Shishu Mandirs, etc.) These courses are meant for persons having passed upper primary of high school examination. These one-year courses were launched initially under Integrated Child Development Scheme run by State Government Municipal Corporations, Voluntary Agencies and Private Agencies as certificate courses NTT (Nursery Teacher Training) CT (Certificate in Training), etc.

Elementary Teacher Education

(Preparation of teachers for Classes I to VIII.) Elementary Teacher Education institutions in the country are running three types of courses at this stage.

- Teacher education programme for primary school stage (Classes I-V)
- Teacher education programme for elementary school stage (Class I-VII)
- Teacher education programme exclusively for upper primary school stage (Classes VI-VIII)

The NCTE has recommended only first two alternatives. These two years' courses are being run by Colleges, TT Schools, STC Training Schools, SIE Schools, DIETs under the umbrella of

SCERT. These Certificate or Diploma Courses are STC, BTC, DTE, DGP, JBT, TTC, ETT, OT (language), D.Ed, etc.

Teacher Education for Secondary Stage

This is a one-year course leading to B.Ed or B.Ed (elementary) or B.Ed (special education) run by colleges of education and university departments of education. B.Ed through distance mode is of two years, duration whereas four-year integrated courses for elementary and secondary stages are being run by Regional Institutes of Education. Graduation is a basic eligibility condition for getting into colleges of education. Some universities hold entrance tests for B.Ed. The new Curriculum Framework (1998) of the NCTE has recommended that the duration of Teacher Education Courses at this stage be increased to two years.

Teacher Education for Senior Secondary Stage

The +2 stage has been designed and recommended on the basis of academic and vocational streams.The NCTE has designed these courses (Curriculum Framework 1998) for those who have undergone a B.Ed and also Master's degree in any of the academic subjects may undergo a *Bridge Course* or earn additional credits needed for developing competencies relevant to this stage.

Post-graduate Courses

Graduates with first degree in education (B.Ed) are eligible for the courses leading to M.Ed (General), M.Ed (Teacher Education), M.Ed (Guidance and Counselling), M.Ed (Education Technology). The courses are of one-year duration run by university departments of education or some colleges of education also offer limited number of seats in M.Ed.

Teacher Preparation for Elective system

Like non-formal education, adult education, distance education, etc. are being done as an optional compulsory course in MA. (Education), MA (Community Development), MA (Social Work), MA (Rural Economics).

Teachers for Students with Special Needs (Visual Disability, Hearing Disability, Mental Retardation, Learning Disabilities, Dyslexia, Gifted Children) are prepared through need-based programmes leading to Certificate/Diploma or as optional papers in B.Ed or B.Ed (Gifted) in specially identified institutions.

Education of Teachers for Physical Education

The Curriculum (1998) has suggested two types of courses in this area when physical education is viewed as an integral part of teacher education programmes at all levels and physical education specifically for preparing teachers of physical education. The diploma or certificate courses have been suggested for elementary stage, B.P.Ed for secondary stage and M.P.Ed for teacher educators. The following table presents number of trained teachers reaching at various levels.

Level-wise Number of Trained Teachers in India

Level of education	*No. of Teachers*	*Percentage of Trained Teachers*	*Teachers-Pupil Ratio*
1. Higher Secondary Schools (10+2pattern)	651776	93	35
2. High/Post Basic Schools	869428	90	29
3. Middle/Senior Basic School	1211883	88	37
4. Primary/Junior Basic Schools	1871542	87	42

The role of NCTE along with the UGC and the NCERT at the centre level and that of SCERT's/SIEs. at state level for quantitative and qualitative improvement of teacher Education has been commendable. DIETs (through SCERT's), Colleges of Education and University Departments of Education have joined hands with the NCTE to strengthen the system of teacher education at elementary, secondary and post-graduate levels.

A massive task has been accomplished. The sub-standard institutions have been phased out. But it has been a recommendation of NPERC (1990) that teacher education is a continuous process and continuity and standards be maintained through the process of Certification (licensing). The NCTE with the help of SCERT's, DIETs, SIEs can initiate the process of licensing of teachers on the pattern of USA teacher education. It may lead to commitment, dedication, work culture and professional ethics among teachers. Although CABE (1992) had not endorsed this recommendation of NPERC, yet a second thought is needed in this direction.

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Towards Effective Inservice Teacher Education

SHARDENDU*

Ancient Indian literature tells us that the process of acquisition of knowledge has various levels. The modern cognitivist approach lends supports to these Indian postulates developed long ago. The following *shloka* makes explicit reference to seven different levels of knowledge, which constitute the cognitive realization starting from the desire to know to the highest level — getting at the substantive knowledge (*Tattvagyanam*).

> शुश्रुषा श्रवणं चैव ग्रहणं धारणं तथा।
> ऊहापोहार्थविज्ञानं तत्वज्ञानं सप्त धीः गुणाः ॥
> *(कामन्दक नीति शास्त्र/4/22)*

It is evident from the above *shloka* that the seven layers (levels of knowledge are: avidness to learn (*Shushrasha*), knowing (*Shravanam*), receptivity (*Grahanam*), retention (*Dharanam*), reflective inquiry (*Uuhapoh*), getting at the real import (*Arth Vigyanam*) and arriving at substantive knowledge (*Tattvagyanam*).

It may be worthwhile to indicate that in those hoary days, there was no specialized institution to train teachers in the art of teaching. However, institutions of wide fame grew around the teacher. Instructions used to be imparted orally and characterized by earnestness and painstaking moves on the part of the teacher The kernel of pedagogic method was centred on trying to quicken and rouse the latent powers of thinking in the student and lead him on to the stage of logical conclusions. The methods of pedagogy entailed that these teachers explain the general meaning to the learners and skilfully win them to progress; they instruct the inert and sharpen the dull. When disciples, intelligent and acute, are addicted to idle shirking, the teachers doggedly persevere, repeating instruction until the training is finished.

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With the passage of time, this tradition of transmission of knowledge eclipsed and a holistic system of education including teachers' training emerged.

The modern system of teacher training has its origin in the recent past. Earlier it was presumed that a person, who knew the subject matter, was *ipso facto* competent to teach it. It took a fairly long time for people to realize that ability to teach and knowledge of the subject matter did not necessarily go together. Teaching has not been acclaimed and accepted as a specialized activity requiring a person (teacher) to undergo professional training. The professional preparation of teachers is of great importance in any system of education. In this context, teacher education programme and teacher training are interchangeably used, whereas the term 'teacher education' has a wider connotation and implies that the teacher has got to be prepared not only for a professional skill in teaching but for ensuring the development of his whole personality, his mental and emotional development, attitude-formation has to be looked after and given proper orientation from time to time.

The inservice education and training of teachers is defined as a gamut of :

> "those education and training activities engaged in by primary and secondary school teachers and principals, following their initial professional certification, and intended mainly or exclusively to improve their professional knowledge, skills, and attitudes in order that they can educate children more effectively" (Bolam, 1980, p.3).

Policy Overview

During the post-Independence era, teacher education has received attention of all the commissions and committees set-up in the field of education. Several meaningful recommendations/ suggestions which found place in the *National Policy on Education* 1968 and 1986 have swayed the modern concepts and paradigms which are being developed in the contemporary pedagogic concerns.

Radha Krishnan Commission, known as the *University Education Commission* (1948-49) observed in almost unambiguous terms that people in this country have been slow to recognize that education is a profession for which intensive preparation is necessary as it is in any other profession and recommended that "the courses be remodelled and more time given to school teacher and more weight given to practice in assessing the students' performances".

Subsequently, in 1950 an All India Conference of Training Colleges deliberated for the first time in Baroda on the common problems confronting the world of teacher training. Almost after a year the second conference at the national level was again convened in Mysore. It took an in-depth review of the existing conditions of teacher training and examined the various issues in a broader perspective leading to important recommendations for improvement.

Soon after, the *Secondary Education Commission's Report* (1953) took note of the then existing three types of teacher training institutions in the country — Primary or Basic, Secondary and Graduate level. But the Commission recommended that these types be reduced to only two levels of training colleges and training schools, the former to be recognized and affiliated to the universities while the latter be brought under the control of a separate Board and not under the Government Departments of Education. In due course, this recommendation has been implemented,by most of the universities and state governments of the country.

An International Study Team on Quality of Teachers and Standardization of Curricula in Secondary Schools was constituted in 1954. The Team pointed out certain major defects in the training system and it recommended that efforts were needed to establish effective articulation in the training of teachers for different school stages. To further reinforce such line of thinking in 1958 the Central Institute of English was set-up at Hyderabad to conduct researches and train English teachers.

The Education of Primary Teachers in India — the Report of the First National Seminar made attempts at looking into the problems of training of primary school teachers for the first time in 1961. The findings were summarized in 1963 in the Report of the Study Group on the Training of Elementary Teachers of the All India Council for Elementary Education. Another Study Team was set-up by the Committee on Plan Projects in 1961. On-the-spot study in this regard helped the Team to locate many significant problems relating to teacher training at different levels. Consequently, its Report on Teacher Training was submitted in 1964 with special highlights on plans to be undertaken.

The swift pace of activity leading to important events became the distinct hallmarks of the sixties. The NCERT (1961) and the State Institute of Education as apex level bodies were established at the national and state levels respectively. A Department of Teacher Education was created in the National Institute of Education, New Delhi. Four Regional Colleges of Education came into existence at Ajmer, Bhopal, Bhubaneswar and Mysore and were set-up under the aegis of the NCERT. These colleges aimed at integrating general and professional courses.

Vitalizing Inservice Programmes

The Education Commission (1964-66) in its report under the rubric *Education and National Development* discussed the continuing Professional Education of Teachers and noticed that very little is being done for the inservice education of primary teachers. In their view this programme needed great emphasis. With regard to secondary teachers, one of the most recent developments is the scheme of summer institutes and the role played therein by the universities. These have had far-reaching consequences on the whole field of teacher education. The programme needs very large expansion and has to become an integral part of the annual work of the universities and schools. In this context, the following suggestions may be made:

- Arrangements are needed for systematic follow-up after a long-term seminar, course or summer institutes. The organizers and resource personnel should keep in touch with teachers who participate in the programmes and teachers should bring to light for the benefit of their colleagues and the public at large the new activities that have been undertaken, the results achieved and the difficulties addressed. A news bulletin may be published to facilitate exchange of ideas or experiences.
- There should be active collaboration and coordination among the persons responsible for school education. The impact of summer institutes organized during the last three years would have been stronger if the collaboration of the Education Departments and the Boards of Secondary Education had been available and modifications had been devised in the curricula, syllabuses and the external examinations to reflect the new trends.

- A viable programme of continuing inservice education of teachers requires a strong support of research in education. The results of research should flow down to the classroom teacher and stimulate him for experimentation in his work. Similarly, the problems of the classroom must climb up to research institutions for an effective and practicable solution. This two-way traffic could be considerably stimulated and made sustainable by the summer institutes and the State Institutes of Education.

The Education Commission *inter alia* underlined the need to raise, upgrade and improve the school curriculum. For this, it is necessary to make the teacher understand the chief features of the new curriculum with a view to developing improved teacher competence, better teaching skills, and a more sensitive awareness of teaching-learning process in the changed situation. Accordingly, an extensive programme of inservice education, consisting of seminars and refresher courses should be arranged to orient the teachers to the revised curriculum. The Education Commission also stressed that in a world based on science and technology, a sound programme of professional education of teachers is essential for the qualitative improvement of education.

The National Policy on Education (1986) was preceded by a very well meaning document captioned by "The Challenge of Education" which provided a broad policy frame based on ground realities and the overall view of the developments in teacher education covering the span of about 33 years or so. This document emphasized that the number of teachers had increased from 7.5 lakh to more than 32 lakh yielding an annual growth rate of 4.6%. The percentage of trained teachers rose from 56.1 (1949-50) to 88.4 (1982-83) during this period.

Measures Contemplated

The National Commission on Teachers made the following recommendations in respect of education of teachers which are also incorporated in the *National Policy on Education* (NPE) 1986. The NPE, 1986 calls for a substantial improvement in the conditions of work of teachers and the quality of teacher education. The policy also emphasizes teachers' accountability to the pupils, their parents, the community and to their own profession. As a follow-up of the NPE, the Government of India prepared a document with a caption *Programme of Action*, 1986 (revised in 1992) which envisaged the following measures:

- Strengthening of Centrally Sponsored Scheme of teacher education;
- Creation of SCERTs as autonomous and independent bodies;
- Special Orientation Programme for School Teachers and creation of Teachers Centres;
- Setting up of the National Council for Teacher Education (NCTE);
- Strengthening of the Departments of Education of Universities;
- Programme support to other teacher training institutions;
- Laying down of norms for accountability of teachers; and
- Evolution of *Code of Professional Ethics* for teachers.

Other strategies to ensure quality and motivation among teachers encompassed:

- Strengthening of the system of recruitment, transfer/posting and evaluation of teachers;
- Pay and service conditions commensurate with their responsibilities and as uniform as possible throughout the country;
- Adequate promotion opportunities, incentives for good performance and disincentives for non-performance; and
- Professional freedom and full involvement in formulation and implementation of educational programmes.

Report of UNESCO of the *International Commission on Education for the twenty-first century* (1996) also known as Delors Commission, while discussing, the quality of teachers laid stress on the development of inservice programmes to allow frequent access to them by teachers, in particular, using appropriate communication technologies. Such programmes can at the same time serve to familiarize teachers with developments in information and communication technology. Inservice training is on the whole as effective as pre-service training, if not more so, in its effect on quality. It can use distance education techniques, thereby saving money and allowing teachers to go on working, at least part-time, and it can be an effective instrument for implementing reform or introducing new technologies or method. Inservice training need not take place solely within the education system: time spent in work or study in the economic sector could produce benefits in bringing knowledge and know-how closer together.

It is to be noted that now education is not being identified with pedagogy but is being recognized as a social science and also as an independent discipline. To make education more meaningful and responsive some of the important suggestions made by the Planning Commission in the Fourth Five Year Plan (1969-74) had been implemented in the country. Successive Five Year Plans and Annual Plan have laid emphasis on Teacher Education.

Significant Developments

It may be indicated that behind the progress and development of teacher education are several milestones that make multifaceted infrastructure for teacher education a reality. Some of the significant recent developments include the following:

- About 425 District Institutes of Education and Training (DIETs) have been set up for providing training and resource support to elementary schools.
- In some States, training centres have been set-up even at the Blocks and cluster levels.
- Colleges of Teacher Education (CTEs) and Institutes of Advanced Study in Education (IASEs) have emerged as new institutions with concerns for improving the quality of pre-service and inservice teacher preparation for secondary schools.
- State Councils of Educational Research and Training (SCERTs) and State Institutes of Education (SIEs) have been established and are being strengthened.
- The National Council for Teacher Education (NCTE) Act, 1993, was enacted by the Parliament for achieving planned and co-ordinated development of the teacher education system.
- Under the Programme of Mass Orientation of School Teachers (PMOST) (1986-90), a sizeable number of primary and secondary school teachers have undergone inservice teacher

training at DIETs/CTEs/IASEs. The teacher educators of these institution were oriented by the Regional Colleges of Education (now Regional Institutes of Education), NCERT.

- Under the Special Orientation Programme for Primary Teachers (SPOT) taken up during the Eighth Five Year Plan (1992-97), a large number of primary school teaches were oriented, specially in Minimum Levels of Learning (MLLs), Operation Blackboard and Multigrade Teaching.
- Under the scheme of Operation Blackboard launched during 1987-88, more than five lakh primary schools have been provided with essential physical facilities and materials. Single teacher schools were given an additional teacher.
- The apex level organization such as NCERT successfully carried out an experimental project, sponsored by the Ministry of Human Resource Development, in collaboration with Indira Gandhi National Open University (IGNOU) and other agencies to train a large number of the Karnataka and Madhya Pradesh, state primary school teachers, using the Interactive Video Technology (one-way video and two-way audio) and extended C-Band transponder to INSAT-2A for transmission.

In pursuance of the provision of NPE on Teacher Education, a centrally sponsored scheme *Restructuring and reorganizing of Teacher Education* having the following five components was launched by the GOI in 1987:

- Mass orientation of about five lakh school teachers annually to make them aware of their role in the context of the new policy thrusts, and to improve their professional competence,
- Setting up of about 400 DIETs,
- Strengthening of about 250 Secondary Teacher Education Institutes (STEIs) — about 50 of them as Institutions of Advanced Study in Education (IASEs) and the remaining 200 as Colleges of Teacher Education (CTEs),
- Strengthening of SCERTs, and
- Establishment and Strengthening of University Departments of Education through the UGC.

In this connection it would be appropriate to look into the role and functions of the DIETs/CTEs/IASEs as envisaged in the scheme.

District Institute of Education and Training (DIET)

The context, missions and roles of the DIETs emphasize the following functions of a DIET:

Training and orientation of the following target groups—

- Elementary school teachers (both pre-service and inservice education).
- Head-masters, Heads of School Complexes and Officers of Education Department up to Block level.
- Instructors and Supervisors of Non-formal and Adult Education (induction level and continuing education).
- Members of DBE and Village Education Committees (VECs), community leaders, youth and other volunteers who wish to work on educational activities.
- Resource Persons who will conduct suitable programmes for the target groups mentioned at (i) and (iii) above, at centres other than the DIET.

- Academic and resource support to the elementary and adult education systems in the district in other ways, e.g., by (i) extension activities and interaction with the field, (ii) provision of services of resource and learning centre for teachers and instructors, (iii) development of locally relevant materials teaching aids, evaluation tools, etc. and (iv) serving as an evaluation centre for elementary schools and programmes of NFE/AE.
- Action research and experimentation to deal with specific problems of the district in achieving the objectives in the areas of elementary and adult education.

Each DIET has seven units/branches namely, Pre-service Teacher Education, Work Experience, District Resource Unit, Inservice Programme, Curriculum Material Development and Evaluation, Educational Technology and Planning and Management. By the end of the Eighth Five Year Plan 425 DIETs have been established. Regular organization of inservice training programmes is one of the main indices of effective functioning of a DIET.

Colleges of Teacher Education

CTEs have been established with the following specific functions:

- To organize pre-service teacher education courses for participation of secondary teachers,
- To organize subject-oriented (3-4 weeks duration) and shorter theme-specific (3-10 days duration) inservice teacher education programme for secondary teachers, with a view to making every teacher undergo at least the subject-oriented training course every 5 years, apart from shorter, theme-specific courses,
- To provide extension and resource support services to secondary schools, school complexes and individual teachers,
- To conduct experimentation and innovation in school education,
- To provide training and resource support for the new areas of educational concern, e.g. value-oriented education, work experience, environmental orientation of education, population education, educational technology, computer literacy, vocationalization and science education,
- To provide support to professional bodies, and
- To encourage community participation in teacher preparation programmes.

Institutes of Advanced Study in Education

In addition to the above functions, IASEs are supposed to perform the following functions:

- Conduct programmes in Elementary Teacher Education so as to prepare elementary teacher educators,
- Conduct M.Ed., M.Phil. and Ph.D. programme in Education so as to prepare Elementary and Secondary Teacher Educators and research workers in education. Some of the IASEs may also start four-year integrated courses for Secondary School Teachers,
- Conduct inservice courses for (i) elementary and secondary teacher educators, (ii) Principals of secondary schools, (iii) persons involved with supervision of secondary schools, etc.
- Organize pilot programmes in Teacher Education,
- Conduct advanced level fundamental and applied research and experimentation in education, especially of inter-

disciplinary nature, e.g. sociology of education, education and economic development, educational psychology, etc.

- Conduct training programmes for preparation of software and use of educational technology,
- After the system of organizing inservice programmes gets stabilized and depending upon the capacity of an IASE, and the demand, such an Institutions may also organize some longer duration and specialized courses in appropriate areas,
- Provide academic guidance to DIETs and resource support to CTEs.
- The IASE may also engage in the development of instructional material, e.g.
    - Unit plans or content-cum-methodology instructional packages
    - Question banks
    - Teachers' Handbooks, Students' Workbooks, etc.
    - Source Books and resource materials
    - Innovative programmes/practice and experimental projects
    - Self-learning instructional packages
    - Teaching aids and kits.

Against the target of 135, only 107 Secondary Teacher Education Institutes could be upgraded into CTEs/IASEs in the country by 31 March 1996. Most of CTEs/IASEs have been engaged in pre-service teacher education programme and a majority of them have not geared themselves to the new role of the centre for continuing education of teachers.

Focus in Teacher Education Research

Danielson and McGreal (2000) summarized historical perspectives on the research on teaching in their book entitled *Teacher Education to Enhance Professional Practice.* The following figure provides a glimpse into the nature and foci of the research and training activities over the past five decades:

Historical Perspectives on the Research on Teaching

Decade	*Research on Training*
1950s	Trait research
1960s	Teacher effectiveness: the correlational years
	Clinical Supervision
1970s	Hunter model
	Learning styles
1980s	Teacher effectiveness: the experimental period
	Expectancy studies
	Discipline models
	Hunter derivatives
	Effective schools research
	Cooperative learning
	Brain research
1990s	Critical thinking
	Content knowledge
	Content pedagogy
	Alternative assessment
	Multiple intelligence
	Collaborative learning
	Cognitive learning theory
	Constructivist classrooms
	Authentic pedagogy
	Engaged teaching and learning
	Teaching and understanding
2000s	Authentic pedagogy
	Engaged teaching and learning
	Teaching for understanding

Research in the field of teacher education and also pertaining to teacher educators is primarily a post-independence phenomenon in India. According to Buch (1990), the first research study in the field of teacher education undertaken by an Indian

University was in 1953. Research in teacher education gained momentum with the establishment of the National Council of Educational Research and Training (NCERT) in 1961. The NCERT not only sponsored studies in the teacher education but also conducted surveys and initiated several programmes for the improvement of teacher education in India. *Surveys of Research in Education* (Buch, 1974, 1979, 1987, 1991; NCERT, 1997) indicate an increase in educational research studies from 729 in 1974 (first survey) to 1829 in 1997 (fifth survey). Expressing concern over the poor feedback of teacher education research findings into the teacher education system, Buch (1990) remarked, "More than 450 studies have been completed in the country in the area of teaching and teacher education. What are the findings of this research? In what way would these findings be helpful to vitalize teacher education?" It is high time that professionals in the teacher education critically analyze the findings of research, translate them into practice and feed the same to the teacher education programme for its improvement and modernization.

Needed Competencies

At the very outset it may be highlighted that NCTE document *Curriculum Framework for Quality Teacher Education* properly brings out the case of promoting competency-based teacher education programmes which will have grounding on the basis of Indian culture and cherished human values. Taking a cue from this, the thrust of inservice teacher education progress has to be forging these competencies at the grassroot level programmes which have been recently developed and undertaken by concerned organizations and structures created recently.

Teachers can act as trail-blazers in the lives of learners and in the process of education for development. If teachers acquire professional competencies and commitment, and if they are enabled and empowered to perform their multiple tasks in the classroom as well as in the school and the community in the genuinely professional manner, then a chain reaction can begin, starting with the sound teacher performance and culminating into a high quality learning among increasingly more students in respect of cognitive, affective and psychomotor areas of human development.

Effective teacher education for both elementary and secondary stages of education has now to be conceived with a more comprehensive paradigm encompassing a number of inter-related components. Inservice teacher orientation to be offered on a recurrent basis in an organized manner to those teachers, who are already on the job through seminars, workshops and orientation programmes held from time to time as new professional needs arise.

The job analysis of present-day teachers shows that compared to the pre-independence period in India, the performance areas for the practising teachers have been considerably enlarged. At present, systematic training is generally not provided to teachers by many of the colleges of education to help them perform several of these tasks in a professional manner. A teacher is, after all, a professional practitioner and has to plan, execute and implement several programmes of instructional designs on a continuing basis.

Dave (1998) in NCTE's *Competency-based Commitment Oriented Teacher Education for Quality School Education* (Initial Document) provides the most comprehensive framework for quality teacher education.

One of the important dimensions of the renewed curriculum pertain to five performances. areas. These have been identified on the basis of job and needs analysis in order to improve quality and efficiency of school education. These are:

- *Performance in the Classroom* including teaching and learning processes, evaluation techniques and classroom management.
- *School-level Performance* including organization of morning assembly, celebration of national , social and cultural events, and participation in school-level management.
- *Performance in Out-of-School Activities*, such as field visits, observation tours, etc.
- *Performance Related to Parental Contact and Cooperation*, such matters as enrolment and retention, regularity in attendance, discussing progress reports, improving quality of achievement, etc. and
- *Performance Related to Community Contact and Co-operation*, comprising issues like village education committee work, joint celebration of certain events by school and the community, eliciting community support for the development of school, etc.

In order to equip the teachers adequately and effectively in these performance areas and to enable them to become thoroughly competent to carry out these professional tasks with a desired level of efficiency and insight, competency areas have been identified. The ten competency areas, together with certain specific competencies which may be specified under each are:

- *Contextual Competencies* comprising a wider view of the development of education in society and teachers' role in it;
- *Conceptual Competencies* including various concepts of education and learning and psychological, sociological and neuro-physiological aspects of education, etc.;
- *Curricular and Content Competencies* related to specific stage of education such as primary, upper primary or secondary;
- *Transactional Competencies* as regards General, Subject-wise, Stagewise dimensions;
- *Competencies in Other Educational Activities* such as planning and organizing morning assembly, etc;
- *Competencies Related to Teaching-learning Material* such as preparation, selection and use of Classical Teaching-learning materials, New Educational Technology, Local Resource, etc.;
- *Evaluation Competencies* including preparation, selection and use of evaluation tools, tests, etc.;
- *Management Competencies* including matters like organization of classroom, school and community activities;
- *Competencies Related to Parental Contact and Co-operation* covering activities of Parent Teachers Associations, etc.;
- *Competencies Related to Community and Co-operation* involving activities of mutual interest for institutional as well as community development.

All these teacher competencies are to be developed first during pre-service teacher education and subsequently updated and strengthened during recurrent inservice teacher orientation programmes and also as an essential component of continuing and self-directed professional enhancement by individual teachers on their own.

Towards this end, five commitment areas have been identified to form an integral and essential part of the curriculum for teacher education. These are:

- *Commitment to the Learner* including love for the learner, readiness to help learners, concern for their all-round development etc.;
- *Commitment to the Society* such as awareness and concern about impact of teachers' work on the degree of advancement of families, communities and nation;
- *Commitment to the Profession* that is, internal acceptance of the role and responsibility of the teaching profession, no matter under what circumstances one entered it;
- *Commitment to Achieve Excellence* that is, care and concern for doing everything in the classroom, in the school and the community in the best possible manner and in the spirit of 'Whatever you do, do it well' or do-it-well attitude; and
- *Commitment to Basic Human Values* including the role model aspect comprising genuine practice of professional values such as impartiality, objectivity, intellectual honesty, national loyalty, etc. with consistency.

Thus, it may be averred that the expansion of pre-service teacher education to meet the needs of unprecedented expansion of education in the post-Independence period and the increased focus on inservice education of teachers on a continuous basis brought in its wake concomitant problems relating to the quality of teacher education in the country.

Let us, therefore, admit that establishing linkages between teacher education and its consequences in terms of cognitive, affective and psychomotor learning would probably provide insight into the ways the teachers can be trained to adjust their teaching according to differing background — social, economic, motivational, intellectual, emotional and behavioural — of different kinds of pupils. To suggest what teacher education has to be, cannot be taken as a realistic proposition without knowing what teacher education is, and furthermore, what teaching is for groups of differing backgrounds and for future careers. Incisive studies will be needed with regard to methodology, curriculum and linkages of presage variables with the process and product of teacher education for effective training of teachers; even teacher educators would require active and self-directed learning. A performance-based method of appraisal of teachers in colleges of education is as important as it is in schools.

As rightly pointed out in the document *National Curriculum Framework for School Education* to achieve the strengthening of research base, "the NCERT, the SCERTs, other similar institutions and the university departments of education will have to encourage, sustain and carry out educational research and disseminate their research findings to feed and strengthen the curriculum development centres in a regular manner". This will hopefully strengthen in the years to come, the bare of on-going programmes and activities in the area of teacher education in general and that of inservice education in particular.

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Education in Indian Cultural Values

J. VEERARAGHAVAN*

The most comprehensive report on education in free India — the Kothari Commission's Report — was released in 1966. The first National Policy on Education was adopted in 1969. By 1982, Shri J.P.Naik, the eminent educationist and Member-Secretary of the Kothari Commission had become disillusioned with the implementation of the Report and of the National Policy. In his book *Education Commission and After*, he has analysed[1] the several recommendations of the Report and the action taken thereon. He felt that the Report did not highlight the close links between Education and Society nor did it elucidate the dialectical process of education that leads to the strengthening of the status quo and on the other to social change and development.

Shri Naik felt that a clear vision of the future society was essential for educational reform. He saw the elimination of the worst aspects of the existing social order as the vital first steps towards a new educational order. He identified the following as the worst evils of the present society.

1. The elitist character of our society in which all power — political, economic and knowledge — is concentrated in the hands of a small elite which, despite its internal quarrels and jealousies, always keeps a united front vis-a-vis the masses of people who are marginalized and unable to assert themselves as to plan their own destiny.
2. The hierarchial organization of all institutions which is inimical to democracy and social justice is one of the major obstacles to progress.
3. Poverty which has a few parallels in the world. The majority of our people live below the poverty line and a substantial proportion of them lead almost subhuman existence. It is this colossal and degrading poverty that is at the root of most of the evils we see around us : low standard of nutrition,

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[1] J.P. Naik, *Education Commission and After*, Allied Publishers Pvt. Ltd.,1982

bad housing conditions and inability to benefit from social services such as education or health.

4. Elimination of poverty is not merely a question of production, though it is necessary and made more difficult by growth of population, but also a problem of the nature of production and of equitable distribution.
5. The rise of intolerance and extremism in different groups creating tensions and conflicts.

Shri Naik observed that development on the lines of models derived from the West (the discarded socialist model or the popular capitalist model) cannot eliminate these evils. He said, "The consumerist society that the Western nations have created... has led to grave crises of environmental degradation, depletion of scarce and non-renewable resources, intense social and political tensions within and between nations and stockpiling of nuclear weapons posing a threat to the very existence of man. Under these circumstances it would be perfectly in order to tow away from both models and seek a third model where consumerism will not be equated with quality of life and appropriate technology will be developed in keeping with our resource endowment (including population)".[2]

How relevant are these views of Naik in 2001 when we are in the era of globalization ?

Isolationism is certainly not the appropriate response in the new millennium. India was isolated in earlier centuries from Western Science and Technology and we lost our freedom partly on account of that. We certainly do not want to repeat that experience. We are part of a globalized world and globalized science and technology and trade order. The question, however, is whether globalization compels us to behave as if there is no mass poverty, no massive unemployment, no environmental damage, no individual and social tensions? In his book *Economics and the Environment*. Jake Goldberg points out [3]: "of more than 200 nations just 10 countries having 25% of the world's population have 80% of the world's wealth. The United States with 5% of the world's population uses 25% of the world's energy output. The wide gap between the rich and the poor has grown wider in the last few decades".

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[2] J.P. Naik,Op.cit, pp.172-79

[3] Jake Goldberg, *Economics and the Environment* Chelsea House Publishers, 1992, New York, pp. 36-40.

"Nearly one billion people — one out of every five human beings — live in a state of absolute poverty unable to obtain food to satisfy basic nutritional requirements. An inadequate diet stunts growth, mental development and reduces the capacity to work and increases a person's vulnerability to diseases. It can be catastrophic for the poor family, driving them to debt and forcing them to sell their animals and implements.

"People who do not receive adequate diets are slowly dying, each year more than 40 million people die from hunger and hunger related diseases. Nearly 15 million of these are children. Almost 1.5 billion of world's population lack safe drinking water, proper sanitation and sewerage facilities.

"Millions succumb to tuberculosis, malaria and other diseases. Poverty and hunger make it harder to educate people".

Economic development of the Western Model for the last 50 years has miserably failed to solve the problem of poverty and deprivation in the world and has only increased the disparities. Are there grounds for believing that 'globalization' will result in a different picture for the world and for India? Globalization can hope to solve India's economic problem only if there is a very fast and sustained growth. Under such a possible scenario, the initial setbacks and increase in poverty would soon be overcome and India could emerge from its age old problems. Such a positive scenario is described by Allen Hammond in his book, *Global Destines and Regional Choices.*

Hammond says[4] "a new India begins to emerge in urban centers marked by startling growth of young professionals with cellular phones, sleek cars, high rise apartments... the emergence of a self-confident, ambitious middle class eager to get on with building a world class economy, a construction boom, a huge drop in corruption, an enormous increase in foreign investment, and many new companies. Though initially many of the poor are left behind, soon they find employment in the booming factories and retail sector. There would be better schools and higher standards in education and all but a few can meet their needs and also enjoy consumer luxuries".

But Hammond recognizes that even this positive scenario's initial impact might be to deepen poverty and also that the strategy by itself will not adequately address India's environmental or social problems.

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[4] Allen Hammond, *Global Destinies and Regional Choices*, Island Press, Washington (1998) P. 178

Also, there is the other scenario, more probable, that of failed globalization, where the economic benefits might simply skip large sections of the people, and will impoverish them. Pollution would increase, population would explode and social tensions and divides would result in a breakdown of the social order.

The failure of globalization and economic reforms would then bring great tragedy to the nation, but even its 'success' has not much to offer to their poor! We have, therefore, look for another way, a way that addresses the concerns of the people and this is the scenario that Allen Hammond describes as that of a "transformed India".

Under this scenario he envisages decentralization and local control of resources (including power to appoint teachers), emphasis on village improvement, raising of local resources by charging for irrigation water or other facilities and other local development services. He observes:[5]

"Village and urban development will then create an expanding internal market — with economic growth accelerated India can become a favoured target for international investment. Equally dramatic would be the revival of the Gandhian ideals of modest life styles of consuming what are needed and not just what one could. As a result the country's saving rate would soar providing an additional source of investment even while limiting the growth of some consumer products".

India's economic expansion would have a unique character, dominated by basic goods than by high profile consumer goods. Overall the country's focus would be on information, services and science-based companies — as if the country had gone directly to a post-industrial economy".

But the values the elites subscribe to presently (which are the governing values of society) do not favour this kind of a 'transformed India'. The values we have to say will decide the future of our people and if we wish to choose a future of dignity for all our people, for each citizen — adult or child, we have to choose those values that are consistent with our natural and cultural heritage and endowment and the needs of all our people.

Madhav Gadgil and Ramachandra Guha have explored[6] this dimension in great depth and have come out with the conclusion that a development pattern that is decentralized and local and includes elements of capitalism, Marxism and Gandhism would be most appropriate in our context.

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[5] Allen Hammond, Op. cit, p.185.

[6] Madhav Gadgil and Ramachandra Guha. *The Use and Abuse of Nature*, Oxford University Press, New Delhi (2001) Pp. 115-132.

They recognize that the capitalist system promotes more efficient use of resources, but find also that it also encourages continually higher levels of consumption of material, energy and information resources. They observe:[7]

"In all capitalist societies people are sucked into a rat race, consuming more and more of the resources of the earth. However, this has by no means led to more satisfactory lives. As Ivan Illich points out, the availability of private automobiles in the United States has not reduced, but rather increased the time an average citizen spends in daily commuting to work. The frenzy of earning and spending in the capitalist system is thus not at all compatible with moderating the impact of the people on environment".

They recognize that the philosophy of economic liberalization does have at its core three significant themes: namely — the need to do away with state sponsored subsidies, pruning the powers and size of the state apparatus and creating an open democratic society that should imply a better deal for India's environment and people; but they are also of the view that implemented in the context of a highly inequitable society, this philosophy is unlikely to lead to any significant progress.[8]

"This is because while in theory and under ideal conditions market forces result in an efficient pattern of resource use, iin India's grossly inequitable society the market assigns a far lower weight to demands by weaker segments of society, so that resources flow towards production of commodities in demand by the omnivores. Moreover market is so manipulated that labor or commodities which the weaker segments have to offer are obtained from them at a very low value, with organized trade and industry usurping the larger share of profits accruing from economic transactions".[9]

Gadgil and Guha are of the view that the only route to a proper regime of restraint in resources use is to pass on resources control to social groups who would reap the benefits of prudent use. Today these are by and large India's ecosystem people; hence the Gandhian prescription of empowering them is quite sensible". But while the Gandhian prescriptions that ecosystem people must be empowered and that material consumption should be contained within limits compatible with a reasonably equitable sharing of the products of nature and economy make perfect sense, the means suggested in the Gandhian approach that all this should be brought about by voluntary acceptance by all people, in and out of power, seems "impracticable".[10]

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[7] Madhav Gadgil and Ramachandra Guha, *The Use and Abuse of Nature*, Oxford University Press, New Delhi (2001), p.121.

[8] ibid, p.123

[9] ibid, p.122

Looking at the values of elites and the middle and upper classes today one can easily understand the assessment of Gadgil and Guha but one need not discount all possibilities of peaceful evolution to a new economic and social order (such as described by Hammond in the scenario of a transformed India as "Impractical".

The only alternative to this might be violent upheavals and greater tragedies. But such alternatives are avoidable through a new value order. Gandhi and Gandhism always seem at first sight as "Impractical" utopianism. Yet Gandhi overcame the disbelievers and cynics and created a mass movement during the freedom struggle. Several members of the middle class responded magnificently to Gandhiji's call and identified themselves with the masses. The freedom movement led by Gandhi was an era of sacrifice. Gandhi created this magic by his faith and by his example, but he also drew heavily from our cultural roots. It is to that deep seated cultural force we should turn in order to absorb, moderate and contain the forces of globalization.

We can be open to all the knowledge and all the trade in the world, yet one can be rooted in the values of our culture. Our culture teaches us to contain and limit our wants, curb our desires, be considerate and compassionate and aim for the highest in the world of intellect, art and spirituality. It wants us to be at peace with ourselves and with Society and Nature. It wants us to be *Suras* and not *Asuras* who are out of harmony. It wants us to be fearless and brave, truthful and calm, and avoid anger, greed and passion. Does globalization warrant that we should be greedy, aggressive and given to wanting more and more and be competitive at the expense of our colleagues and neighbours ?

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[10] As per Footnote No.7, page 5

It is misleading to think of globalization as opposed to Swadeshi and self-reliance. Globalization means global trade and exchange and one who has no "surplus", who is not self-reliant, can hardly ever "trade". Globalization does not require us to be in debt or to beg. To be truly global, one must be truly local, develop one's talents, and offer one's best to all of the world. Market economy depends on value creation and we create values by being ourselves, by allowing our true identities to operate.

The real threat to us is not globalization of trade or finance or ideas, but our lack of rootedness in our own culture.

Our intellectuals with one leg in Western culture are afraid that they will lose the anchoring of the other leg in Indian culture that their grandparents had bequeathed to them. Their fear is well-founded, as our education system for the last fifty years has done little to foster our heritage or faith in our culture and values.

Our education system has failed to understand and inculcate the values of our cultural identity. Words like *Yagna*, *Tapas*, *Dana*, *Samyama*, *Karma* and *Dharma* echo in India through centuries, in the urban and the rural areas in the rich and the poor communities. They are in our blood. If education emphasizes these values, people will respond to such an education and become true citizens of this country, typifying our culture and our identity. They will contribute to the material, scientific, mental and spiritual progress of the entire world. If on the other hand we run after consumerism and individualistic values of the West, we would have swerved from *Swadharama*, and while a few of our citizens may become wealthy, India will lose its cultural identity and wallow in misery as never before and perhaps loose its freedom as well.

The civilization of the West is based on the assumption that man is essentially a selfish creature and institutions must be organized making use of man's propensity to pursue self-interest. It is based on a further assumption that man's life is to be spent seeking increasing material comforts.

Our constitution seeks a life of dignity for all, but beyond that we do not believe that man must pursue his self-interest or material welfare. Man must always think of the welfare of his neighbours, of his community, of nature, of the universe.

It is the glory of our culture that we had these values, not as mere words, but as social practices and norms, as individual and group behaviours. Our traditions taught us to control the mind (Yoga), and seek for identity with the immortal, to develop compassion, and to live for others. Can there be an Indian Education System, without focus on cultivating these values ?.

It is an extraordinarily stupid notion that market creates values. To a hungry man food is a value, but if he has no ability to pay, according to economics there is no 'value' in the food! Values are created by investing our talents to fulfil the needs of others (or of ourselves), irrespective of the value receiver's ability to pay. It is the misidentification of value with market value that has led Western societies astray. It is this misidentification that made Ruskin declare economics an evil science. Instead, in our tradition we related value to something eternal.

Centuries ago our forefathers had learnt the art of mind control and the ability to look beyond the mind and realize the Immortal Being behind all of us. This they called *Adhyatma Vidya*, the greatest Vidya of all Vidyas says the *Bhagwad Gita*.

Let our education system once again draw on this tradition. We will then be better prepared to embrace globalization. We shall then solve our problems and also the world's problems. We can then use globalization to tackle the immediate issues, the four evils to which Naik drew our attention, and many other social evils.

If we are deeply rooted in our values, globalization need not be a 21st century repeat of 19th century colonialism.

No nation can have a spiritual tradition if it is mired in abject poverty. Poverty cannot be removed by the welfare State concept of the West, where rich States tax their citizens heavily, collect the taxes without fail and use it for poorer citizens. We do not have that kind of economy nor that kind of administration. No "trickle down" or any other modern theory has a solution for India's problem of poverty in a reasonable time frame. India's problem is in the abysmal substandard in the living of the people and the magnitude of the numbers. It can be solved by emphasizing local production to meet the needs of the people through a concept of "Welfare Society"as opposed to a "Welfare State." It is the *Dharma* of villages and all communities to look after the nutrition, health and housing of all. It is their *Dharma* to produce as well as to give. *Yagna* is the concept of offering without seeking an immediate money or commodity exchange. Without *Yagna*, our acts are sinful says the *Gita*. We must build a *Yagna* -based economy that meets the needs of the people, not a market-based economy. *Dharma* is the obligation to provide for all including the poor. *Karma* is the obligation for productive work. *Tapas* is the intensity with which we pursue knowledge and work. Can these concepts, written into the sub-conscious mind of our culture, be given a practical shape to overcome elitism, hierarchy, poverty and intolerance ? We must have a fundamental relook into our modern educational practices to reintegrate education with these basic concepts of our culture without which these can be neither education nor national development.

The Founder of Bharatiya Vidya Bhavan, Kulapati K.M.Munshi was very clear that it must be Bhavan's mission to restore awareness of Indian cultural values in personal and collective life.

In his famous statement of Bhavan's Faith, he called for reintegration of Indian Culture and standard. "In a world falling to pieces under the impact of an amoral technological avalanche, it tries to hold fast to the fundamental values for which our culture stands – *Rita, Satya, Yagna and Tapas.*"

FAITH in God Who forms the Cosmic Order; TRUTH which is a chord between mind, word and deed ; DEDICATION which offers all movements of life as an offering to God ; SUBLIMATION which purifies the body and mind and transmutes instincts, passions and emotions into things of beauty.

He further stated that "these values are embedded in our national outlook, we command respect of the world because of them and we can look forward to the future with confidence only because they have the vitality which gives the power that vindicate their validity even in this fear-and-avarice-ridden age of ours".

India's modern education system has grown symbiotically with the growth of jobs since the advent of the East India Company. It is largely cognitive in character and may be termed as a kind of job-oriented education. It pays little attention to the development of all-round personality and totally ignores the spiritual dimensions of man in the development of which India has a priceless heritage.

With the advent of information technology, knowledge of a cognitive character is easily accessible from many sources other than the school. On the other hand it appears that the cultural traditions cannot be transmitted by any institution other than the school.

Families performed this role in yesteryears, but with the advent of the nuclear family and the pressure on time, families have ceased to perform the role as a major source of cultural tradition. The media too is playing a negative though powerful role. In this context, the responsibility of the school for transmitting our cultural tradition has increased enormously and a mere tinkering with the curriculum will not suffice for bringing about the urgently needed education in Indian cultural values. The school curriculum transaction as of today is intended to promote hard work, rationality and objectivity. Along with that it needs to promote enterprise, initiative and social concern which are typical of the Western culture. There have to be combined with an emphasis on a deeper understanding of the universe and empathy with all living things and with nature and a strong sense of obligation to provide for the poorer and weaker groups, which are at the base of the Indian cultural tradition. Our education system without these values would be a shell without substance. But based on the bedrock of these values we can create the new order needed for the 21st century.

Core Values and Fundamental Duties of Citizens in Modern Democracy

R.P. DHOKALIA*

Introduction

Modern civilization is characterized primarily by spreading of science and democracy and their utilitarian application. The crisis of contemporary civilization lies in a disequilibrium between values and norms inherited from the past and the societal reality of unprecedented changes brought about in human society by the accomplishments of science and technology on the one hand, and by the triumph of democracy as an international entitlement on the other.

Both, science and democracy have revolutionized human life, thought and institutions. They have introduced a tempo of change in social and economic order of human society which has become vulnerable to disruption and a variety of conflicts and paradoxes with good as well as bad results. While both are seen to provide in their own ways a better quality of life and a panacea for all human problems of poverty, hunger, disease, backwardness, oppression and exploitation of individual human person and masses by those in authority, they have also accelerated a change in human society which has higher amplitudes and greater frequencies. The result is that the main systems of social control, or the mainstays of *status quo* of organized social living, are put into disarray. Custom, morality, traditional religions and law and even some of the ideologies of the twentieth century, including nationalism, have been put out of gear as they have not been able to keep pace with the phenomenon of cataclysmic social upheaval and change in the history of mankind.

Our times are witnessing an ushering of a technological society of pervasive technological innovation with a new set of complex economic conditions in which manufacturing is giving way to services, where educational requirements are rising substantially, and where the brain power or intelligence is replacing material product. Operating at the same time is the struggle for universal rational recognition of the needs and desires of all human beings to have their fundamental human dignity which can best be realized in a modern liberal democratic State that guarantees a set of fundamental human rights. With a view to realizing aspirations and demands of people and their economic development, Francis Fukuyama views universalization of Western Liberal democracy as the final form of mankind's ideological evolution and the final form of human government[1] .

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On the one hand, modern science and technology, barely three centuries old, has led to the most spectacular practical achievements in all fields by providing higher standards of living and enjoyment and changing the attitudes of the vast under privileged majority. It also has facilitated gross materialistic life in pursuit of power and wealth by profoundly transforming material conditions of human life and by spurring powerful economic forces of global dimensions. On the other hand, the spreading of democracy has brought about, in the words of Gunnar Myrdal, a revolution of rising aspirations, demands and needs of people all over the world, and the masses are now aggressively seeking better quality of life and higher standards of living. Besides, another factor to aggravate this revolution is that the UN sponsored human right movement has spurred pandemic proliferation of human rights culminating in international recognition of human rights and in the creation of legal and institutional framework for their implementation. In the last five decades of the twentieth century, the revolutionary philosophy and the unbridled growth of human rights and its politicization have had a tremendous influence on the expansion and development of a broad variety of individual and collective rights, including fundamental rights enshrined in the national constitutions of States. Human Rights have today become a prominent feature of social and political life of modern human person with far-reaching social and political effects and consequences. Innate human rights are believed to belong to all human beings, at all times and everywhere. They are deemed to transcend and subordinate national governments and traditional social norms. They also entail corresponding obligations as they are expected to be actualized by all governments as well as by individuals claiming to be modern and civilized. The moral and legal responsibility or accountability is owed to the world community. If democracy is today a dominant principle of political legitimacy, respect for human rights in general and fundamental rights in particular at national level is seen to provide a balance between the rights and freedoms of the individual and the power of the State, or the exercise of authority by any one. This requires a foundation of freedom, peace and justice which demands equal importance to be given to rights and obligations and establishments of ethical base so that all men and women can live peacefully together and fulfill their potential.

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[1] Francis Fukuyama, The End of History, and The Last Man, New York, Free Press, 1992

Disquieting Features of Excessive Emphasis on Rights

Mad pursuit of material progress and economic development at any cost and growing popular demands and aggressive and unfettered assertion of individual or collective rights of all kinds pose today a challenge to human civilization and its social and legal systems. The Gulf is wide and poignant: between thought and societal conditions, human aspirations and actual achievements, profession of the 'ought' and the practice of 'is', the law, in books and statutes and what actually is in operation; and utopian promises and the oppressive social reality existing at the ground level. Consequently, there prevails pervasive disillusionment with all ideologies and legal and political systems, and with leadership practically in all fields of human activity. The prevailing social, economic and political chaos, as evidenced by political, religious and racial conflicts as well as recurrent strikes, rallies; the trend of disintegration of social and cultural institutions like marriage, family and educational system; and an environment of tension, animosity, antagonism, hatred, and intolerance in all walks of life due to economic and social inequality, is reflective of symptoms of a highly politicized acquisitive and right-oriented modern society as a result of greater emphasis on 'taking' rather than on 'giving' one's best to the society.

We come across conflicts between individuals, ethnic groups, and the centres of power; between classes, castes, communities, and tribes; between the rural and the urban and the employer and the employee. The phenomenon of religious fundamentalism and the culture of violence and terrorism; a myriad of particularism and violent sub-nationalism; lack of security — personal as well as national — of food, employment, health, and economic status; and rampant corruption, are some of the other factors which account for the current disillusionment with the national–State itself which is bogged down to service the perceived rights of individuals and small groups, and of all kinds of unions, while these rights are easily exaggerated and aggregated to become collective assets of groups. Proliferation of strident social and political groups and sub-groups which pursue real or perceived special interest is damaging to the social fabric of nation-State because these are little inclined constructively to pursue common good except for reasons of tactical expediency. This tends to degeneration of civil society into narrow'interest groups and which further tends to diminish the nationhood. Besides, rights, which are always believed to be against others by politically active and self-serving politicians, accentuate differences in pluralist societies which have adverse consequences for peace, harmony, and stability. Misuse and abuse of rights or entitlements, as legislative, administrative and court-ordered at times, threaten internal order and social cohesion. Competing antagonistic claims and their excessive proliferation are taken to be a boon for self-serving right-oriented political leaders and lawyers. These tend to degenerate into narrow self-centred goals of immediate gratification of personal desires in the garb of justifications of ideology, theology, justice or so-called public interest at the cost of shared common values and goals set-forth by the supreme law governing the polity concerned. Inability of governments to satisfy overwhelming right-based conflicting demands in heterogeneous societies tends to create instability, more so where rival claims provide vote banks for politician.

Democracy as well as fundamental rights of man, because of their abuse or misuse, seem to have been caught in abiding discrepancies and disjuncture between high hopes and dismal despondency, and between growing popular demands, needs, and assertions and ideological misappropriations of values of democracy and rights of man by empty slogans given by the manipulators of power. It is mainly an insufficient concern with human values, values of democracy, and co-relationship of man's fundamental rights and duties which accounts for generation of conflicts and paradoxes and prevailing chaos. No ideal is attainable if there is no awareness about and a commitment to its intrinsic instrumental and technical values and one's duties as a human being, social being, and a citizen of a polity. The ideal of good self-governance, the core values of individual freedom and of democratic form of government, the basic constitutional values and citizenship values and other values relating to dignity of the individual, are all inextricably linked with co-relativeness of fundamental rights and fundamental duties of citizens.

The Values of Liberal Democracy, Rights, and Duties Inter-related.

The nature of polity determines its basic values which provide social foundation of the rights and duties of citizens, civil society and State respectively. It is the common good which provides in political theory a framework for thinking about the relationship between individual interests and interests of the community. Whilst the term 'common good' has been used in many ways, it is generally acknowledged to have Aristotlian roots. For Aristotle, it consists in 'a good proper to and attainable only by the community, yet individually shared by its members'.[1] He argued that injustice stands in the way of the common good and that injustice is motivated by both, overgrasping for scarce external goods, such as money, honour, and power, and by excessive desires. For him any form of government, is good if it pursues common good but, when it gets perverted, there takes place a revolt seeking its replacement. Monarchy — the rule of one, Aristocracy — the rule of few, and Democracy — the rule of many, are the only three forms of government found by human ingenuity. Each of these pursues common good. For Aristotle, the quality of *homonoia* of a community fluctuates with the quality of what it strives to attain as the vision, the community shares. Whenever any of the three forms of government abandons the goal of common good it gets perverted in practice and, in consequence, each regime may then respectively be designated as tyranny, oligarchy, and mobocracy. The cyclic process of change goes on in mankind's history whenever a few revolt against the misrule of the one (autocracy), and they then form aristocracy, or many revolt against the misrule of the few (oligarchy) and then form democracy; and again one charismatic leader takes over against the misrule of many (mobocracy) and then establishes monarchy. This analysis implies that really the form of government does not matter, what really matters is how it operates through human agency for pursuing the intrinsic value of common good determined by a community's overlapping consensus rather than by any kind of formal agreement.

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[1] (Louis Dupre, "The Common Good and the Open Society", Review of Politics 55, (Fall) 1993, pp687-712 at p 687)

Liberal democracy[1] today is the only system that can successfully cope with the complex and rapidly changing demands of contemporary technological civilization. Considering the global triumph of liberal democracy in our times, after rejection of monarchy/autocracy, aristocracy/oligarchy as well as all other varieties of democracy, its intrinsic value or ultimate ideal, or worthwhileness as an end in itself, lies in the pursuit of common good and welfare of all people which requires politically active citizens to pursue practical wisdom manifested in weaning different talents of each citizen and groups into the fabric of civil society that provides for their flourishing and noble — beautiful actions for meeting the needs of the community, and cultivation of equity and justice as the most comprehensive political virtue. Hence, follows the importance of instrumental values as a means for the realization of the intrinsic value manifested in the ultimate goal of common good. Democracy is concerned to be a method or process of selecting rulers and choosing, at least indirectly public policies. Thus, it must meet two criteria : (i) the criterion of free participation of citizens in the process of electing public officials; and (ii) the criterion of contestation among multiple candidates and parties for some meaningful degree of voter choice. This requires liberty and a variety of rights and obligations.

Liberal democracy is presumed to foster primarily basic human liberties and freedoms to a degree that is unmatched by any other form of government. There exists a close though complex connection between democracy on the one hand and personal individualization and liberties of citizens on the other. Democracy, on the one hand entails a limited government as it provides for checks on rulers making it much more difficult for them to abuse their power or oppress their subjects. On the other, it provides the opportunity for citizens to act and expand the range of their rights to which they are entitled for the pursuit of the goal of common good and welfare of the people, which requires the community to be seen as collaborative and convival rather than entirely competitive and exploitative. Man's personal autonomy, recognized in the form of liberties and freedoms with varieties of expressions as 'natural rights', 'inherent rights', 'inalienable rights', 'fundamental rights' of citizens, and 'human rights', naturally require a social balance between the rights of individuals and of civil societies, though it has not always succeeded in practice.

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[1] The term 'liberal', in classical Western sense, means a political system marked not only by free and fair elections, but also by the rule of law, a separation of powers and protection of basic liberties of speech, assembly, religion and property. The bundle of these freedoms is termed now constitutional liberalism and, further, tends to include today a doctrine about economic policy upholding the modern welfare State.

Civil society requires a civil State that is both stable and strong in the sense of safeguarding the freedoms of citizen and limiting in the sense that it does not monopolise society's powers. It is by virtue of people's being the ultimate source of power that one can distinguish systems that are not in fact democracies despite the presence of outward forms of democracy. Supreme power of people however does not mean free for all. Democracy is neither permissiveness nor *laisseze-faire* , but a system of values or a climate of beliefs governing the behaviour of the participants and their disciplined commitment to it which entails obligations linked with common good as ideal to be pursued. Instrumental values determine institutions required to realize democratic aspirations of people. These values include: (i) full and free discussion, communication and participation in public affairs on the basis of equality and without any obstruction and discrimination; (ii) reliance on consensus rather than on any kind of coersion, compromise, or manipulation in the decision-making on public affairs; (iii) co-relativeness of fundamental rights of citizens with their fundamental duties; (iv) legitimacy of government based on people's consent and consequent peaceful change of governments to comply with; (v) transparency and accountability of government; (vi) influence on decision-making in public affairs based on technical competence and knowledge rather than on the vagaries of personal whims or prerogatives of power; (vii) balance between politics and law, the former adapting and modifying laws in response to the changing reality and the latter controlling and regulating politics so that it does not degenerate into anarchy; and (viii) the rule of law and not of men to provide for objectivity, neutrality, and fairness in pursuit of justice with a view to providing reliability to social institutions.

The values and concepts of the democratic common good and welfare of people, of sovereignty of the people as the ultimate source of power and limited accountable government; and of the liberties and freedoms of self-determining people, representative democracy, and of a democratic legal State, can all be best elaborated by constitution-making and institution-building in practice. The Constitution of a country is the foundational law which lays down the fundamentals of its polity and establishes the main organs of the State. It also enshrines certain immutable basic constitutional values the philosophy and ethics permeating in its preamble and elaborate provisions for the guidance of all those who are called upon to interpret and operate it in practice. The great strength of democracy lies in its capacity for self-correction by intelligent diagnosis and responsible guidance. Lord Bryce, the great historian and diplomat had said: "Perhaps no form of government needs great leaders so much as democracy". They have to set an example of practicing democratic values and performing their fundamental duties as representatives of the people in pursuit of common good. Yet, where can one find great selfless democratic leaders of vision and dedication, like Mahatma Gandhi and his ilk, who have the talent to cajole violent, retrograde and intractable humankind into utopia and make the world safe for democracy in the twenty-first century? Let us pay some attention here to the values enshrined in the Indian Constitution by the political leaders who claimed to be the Mahatma's followers.

Basic Constitutional Values of Indian Polity

Constitutional values are embodied in the basic postulates of Indian Constitution which are as follows:

(i) *Sovereignty* residing ultimately in the people of India to choose and change the government which is eventually responsible and accountable to them. This required institutional arrangement of parliamentary democratic republic which is enjoined to pursue the intrinsic value and objective of the common good and welfare of the people (Preamble 38 (i), Articles 75(3), 164(2) and 326). Sovereign nationhood for India was the goal of the national freedom movement against British colonial rule.

(ii) *Socialism* in the wider sense of adopting policies of liberating the people from all forms of exploitation by pursuing egalitarian and equalitarian goals of social economic and political justice (Preamble and Articles 38 and 39) in a society beset with deep-rooted inequalities of feudal structure and social segmentation which remains the source of the countries present troubles.

(iii) *Secularism* in the sense of giving all religions equal respect *(Sarva Dharma Sambhav)* rather than of State neutrality in relation to religion *(Dharma or Pantha Nirpeksh)*. This does not mean the State is irreligious or anti-religions, but it gives equal freedom to all religions and special protection to religious rights of the minorities in different ways (Preamble and Articles 25-26, 29-30, 44, 51A). India has never been in its history a theocratic State and Indian Society for centuries has been respectful for all religions. So the value of secularism is not something new imposed by the Constitution.

(iv) *Justice* social, economic and political for all citizens equally and without any discrimination, and thereby enjoining the State to strive to promote the welfare of the people by securing a new social and economic order in which all institutions of national life are imbued with justice without any distinction. The fundamental principles of this order are given in Directive Principles of State policy in the Indian Constitution which provide a comprehensive political, social and economic programme of humanitarian and socialist precepts for establishing economic democracy in the country as a foundation of political democracy. These Directives of fundamental axioms of state policy constitute the national objectives and reflect national conscience and aspirations of our freedom movements and the people to guide the establishment of a welfare State. (Preamble and Articles 16, 36-51, 325 and 326)

(v) *Liberty* as a positive concept of freedom of thought, expression, belief, faith and worship is indispensable in a democratic polity. It has been given a concrete shape in the fundamental rights of citizens and which are justiciable and are deemed essential for the development of the individual as well as the nation. (Preamble and Articles 12 to 35). The fundamental rights include essential human rights with a view to preserving and promoting the basic human value of the dignity of the individual and improving the quality of his/her life. Only a genuine democratic republic can ensure that individual freedoms of citizens are not more constrained than is absolutely necessary in public interest as they are the basis of the moral, social and political life of the citizen.

(vi) *Equality:* All citizens are equally entitled to enjoy their rights without any distinction and discrimination. Equality has social, political, economic and legal aspects. It implies equality of status and opportunity in the matter of enjoyment of rights and participation in social, economic and political life and processes without any discrimination between one person and another on grounds of birth, sex, caste, race or religion. All citizens are entitled to equality before law and equal protection of the laws of the land as well as equality of opportunity in matters of public employment. (Preamble and Articles 14-18).

(vii) *Fraternity:* The concept of common brotherhood, one Indian joint family, and a common citizenship of the people of India renders the ideals of liberty, equality and fraternity more meaningful and relevant in the context of the need of strengthening fraternity feelings and fellowship in our pluralist society. The value of the principle of fraternity lies in the promotion of harmony a sense of brotherhood, unity, and solidarity among the Indians as well as in relation to other peoples as it transcends religious, linguistic, racial and regional or sectional diversities of any kind. It embodies the age-old Hindu ideal of *Vasudhaiva Kutumbakam* or universal brotherhood – of the peoples of entire globe being one family of mankind. The goal of fraternity has been stated in the Preamble and now specially elaborated in Article 51(E) of the new Part IVA of the Constitution. Fraternity cannot develop without equality and pursuit of that goal requires socio-economic transformation of the society.

(viii) *Unity and Integrity of the Nation:* The value of unity and integrity of a people lies in a strong bond of patriotism and nationhood feelings among them. The special characteristic of Indian reality has been bewildering pluralistic social diversity of a vast majority of the Indian people who have had traditionally multiple identities derived from numerous religions, languages, races, castes, regions, and so on. Though as geographical entity India was one, holding

> together the people it embraced, it was politically divided among a congeries of independent States, often at war with each other. In the background of India's past history of chaotic political disunity and its intermittent conquests by foreign invaders, Indian nationhood is now based on a conception of socially integrated and united India. Any aggressive assertion of feelings of particularism, viz. separateness of castes and creeds and of racial, linguistic, or communal identities and of their conflicting rights, has dangerous potentialities of weakening and dividing India. Neither democracy, nor Indian nation-State and the ideals cherished in its Constitution, can survive without the existence of a nationhood and unity and integrity of the country which is the foundation of the entire edifice of the Indian Constitution.. Article 51A has appropriately reiterated the importance of upholding the unity and integrity of India. However, Lord Acton had observed that a great democracy must either sacrifice self-government to unity, or pursue it by federalism. So, Indian Union reconciles unity in diversity. Indian federal-nation system is a mosaic socio-cultural heterogeneity which has been called a 'bargaining federalism' which pre-supposes reconciliation, not only between unity and diversity of India, but also between the claims of the public and private orders of the individual, social-groups, sub-nationalities, and local institutions.

The above-mentioned basic or intrinsic constitutional values and high principles or standards reflect and embody the vision and dreams of our freedom fighters and the framers of the Indian Constitution whose supreme goal was to build a united India and an integrated modern and democratic nation-State out of a widely segmented and acutely fragmented feudal society. These instrumental values in turn require a citizenship culture which prescribes inculcation of technical citizenship values as well as fundamental duties.

The constitutional values discussed above guide us in identifying the hard core of citizenship values and obligations enjoined by our Constitution.

Citizenship Values and Fundamental Duties

The success and the quality of a democratic polity depend entirely upon the quality of its citizens — their character, integrity, discipline, and moral and legal commitment to the ideals and values and the fundamental duties. All this is much determined by what may be called citizenship culture of the belief system and behavioural pattern. The Indian Constitution assigns to the citizen a dual role of being a sovereign or a ruler as well as a subject of the State at the same time. The citizens are politically recognized and empowered residents of India who created the Indian Republic and gave themselves a Constitution to regulate the affairs of the nation-State. So the citizens are its creators, its rulers as well as the subjects. As a fundamental unit of Indian democracy, the Indian citizen wields all the powers of the State and runs all its institutions. The citizen enjoys a variety of civil, political, economic and constitutional rights entailing correlative obligations and duties. In all walks of life, as a voter, or as a holder of a public or private office, or as a member of community involved in day-to-day diverse activities, the citizen plays a role of vital force depending upon one's own equipment, and compliance or adherence to personal or professional and moral or human values which give a sense of fulfillment in acquiring excellence in honestly performing one's duties to the best of one's ability. The legislators, the ministers; and public functionaries, from Rashtrapati downwards, are all citizens themselves. The realization of constitutional values, goals and cherished ideals, and the quality of functioning of Indian polity, its governance, and public life, all entirely depend upon citizenship values, moral character, and the interest, initiative, healthy attitude to work, and dynamism demonstrated by the citizens and their leaders themselves in their public or private life. It requires each and every citizen to be guided and energized by higher thoughts and motives and better sense of responsibility to make India strong socially, economically and politically. The core citizenship values and fundamental duties, which provide categorical imperatives of moral dimension in the Kantian sense, are enjoined by the Constitution. These are the values which require the citizen of India to rise above petty and narrow self-interests in order to pursue the common goods of the nation and well-being of fellow citizens as enunciated in the Constitution.

Being central to the socio-economic development of the individual, the society, and the nation, positive and constructive citizenship is the lifeline of a civilized society. Certain elements are common to good citizenship in a democracy in all circumstances, as it pre-supposes not only passive possession of substantial civil, political economic and cultural rights, but also active participation in the life of the community with a view to realizing meaningful self-determination and conscious promotion of social good. This implies acceptance of corresponding obligations, responsibilities, and duties towards the State, the fellow-citizens, and the society at large.

Since underlying basic assumptions and values of democracy are liberty, equality, and fraternity, all the related rights with these ideals are inextricably linked with corresponding duties and responsibilities. The hardcore of citizenship values distilled from the Constitution as a whole can be identified as follows: free, fair and meaningful exercise of the right to vote with meticulous care; choosing the representatives of personal integrity and character committed to manifesto of the political party they belong to; vigorous and active participation in public affairs with a view to assisting in the emergence of consensus in the formulation of policies and decisions on matters of public interest; voluntary acceptance of the methods of persuasion and fair and free discussion in all matters and genuine respect for or tolerance of dissent, different views and opinions; outright rejection of violence in thought, speech and action in personal or public life; commitment to accountability, sense of responsibility, observance of certain standards of behaviour, and self-discipline with a view to promoting democratic way of life and ethos, respect for and promotion of the individual dignity of fellow-citizens without any discrimination; dedication to the rule of law as the way of life; promotion of peace and harmony in public life; commitment to foster healthy environment — physical and social — for achieving highest excellence and promoting culture and civilized life; loyalty to the State; and exercise of constant vigilance on public functionaries and institutions of governance.

Being a citizen of a republic involves acceptance of obligations which are basically moral. One may well argue theoretically that all rights of citizens enshrined in the Indian Constitution impose corresponding duties which are more of a legal character than merely moral. The reason given by Walther Lippman, an eminent American thinker, is that "for every right that you cherish, you have a duty which you must fulfill". But, even if accepting that duties cannot be divorced from rights, it remains doubtful whether fundamental duties, corresponding to fundamental rights laid down as legally binding in Part III of the Indian Constitution (Articles 12-30), are at all judicially enforceable. One can of course have absolutely no doubt about the importance of instilling moral sense of duties, corresponding to all rights, in the hearts and minds of Indian citizens through proper educations in order to make them understand, appreciate and give due importance to their morally binding nature.

If fundamental rights and other rights of the citizens in India by implication had imposed legally binding fundamental duties and obligations, then our having been a republic for the last half a century should have progressively increased in our citizens the sense of fruitful realization of fundamental rights and individual liberties. Had it been so, there could have been no need of rushing through Parliament the Constitution (Forty Second Amendment, 1976) which not only extensively curtailed fundamental freedoms and severely limited judicial review, but also incorporated article 51A on fundamental duties of every citizen. In the particular context of Emergency, some had then thought that prescription of fundamental duties was only a pretext for trampling upon fundamental rights. Others, tired of abuse and misuse of rights in the form of recurrent strikes, *dharnas*, *gheraos* and disruption of public services, had welcomed incorporation of fundamental duties as indispensable for the fulfillment of the constitutional goals and ideals.

Really speaking Article 51A enumerating the fundamental duties for the citizens broadly highlight only the citizenship values as follows:

- to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- to cherish and follow the noble ideals which inspired our national struggle for freedom;
- to uphold and protect the sovereignty, unity and integrity of India;
- to defend the country and render national service when called upon to do so;
- to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

- to value and preserve the rich heritage of our composite culture;
- to protect and improve the natural environment including forests, lakes, rivers, wild-life and to have compassion for living creatures;
- to develop the scientific temper, humanism and spirit of inquiry and reform;
- to safeguard public property and abjure violence; and
- to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

However, these duties of citizens to the nations are neither exhaustive nor can they be so for the reason that both democracy and citizenship keep on growing and evolving with the changing societal reality. These are indeed expressive of noble ideals, moral precepts and citizenship values. Duties require to be spelt out in a concrete form and should be necessarily justiciable. These are, with some exceptions[1] , neither justiciable nor enforceable due to lack of suitable legislation or availability of enforceable provisions, and lack of effective implementation machinery. Fundamental duties to be enforceable, akin to fundamental rights, need an element of compulsion or sanction not only to prevent their violation but also to impose appropriate penalty or punishment for any non-compliance or non-observance. Most of these duties are in practice being violated day-in and day-out with impunity. For example, many a self-serving political leaders and parties are nurturing their vote-banks and dividing the people with a view to acquiring and retaining power by any means. They are weakening the democracy, the peace, and the harmony of Indian society, and the spirit of its common brotherhood by promoting particularism of caste, community, religion and region. Prominent public figures as well as public functionaries are openly flouting the norms and code of conduct by indulging in corruption and ignoring the fundamental duty relating to "strive towards excellence". Besides, what comprehension an ordinary average citizen has of the vague fundamental duty pertaining to scientific temper, humanism, composite culture and the spirit of inquiry? How this duty can be enforced on the mass citizenry of the rural India?

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[1] For instance, the Prevention of Insults to National Honour Act 1971, and the Emblems and Names (Prevention of Improper use) Act 1950, were enacted to ensure correct usage and respect of, as well as to prevent disrespect, or improper use of the National Flag, National Anthem, and the Constitution of India. The Unlawful Activities (Prevention) Act 1967 and Sections 295-298 of the IPC (Ch.XV) take care of formation of communal organization formation and offences relating to religion; Section 153A of IPC takes care of activities creating enmity or ill will between different groups of people.

Need of Codification of Fundamental Duties

Any effective operationlization of legally binding fundamental duties require codification of fundamental duties and enactment of suitable directive legislation relating to citizenship duties and values for enforcing compliance, wherever necessary, and adoption of a strategy of implementation. One is aware that, traditional values, custom, morality and ethics have been rendered obsolete in rapidly changing modern society, and, unfortunately, for all problems in our times only a legal solution is sought even though law has notorious limits. Law can indeed be of value and effective when it becomes a spontaneous habit of life of a civil society and becomes an authentic articulation of the citizens' moral or ethical life. Otherwise, the citizens as well as the State machinery violate the rule of law with impunity for the sake of short-term selfish gains. The upkeep of the Republic and protection of fundamental rights, and promotion of individual liberties require healthy political practice, which constitutes and sustains the democracy, and which is based on moral conviction and legal sanctions to promote genuine respect for the freedoms of the individual as a fundamental duty. For that, the Republic must have primarily moral motive as its driving force which ensures the possibility of moral life itself so that a citizen of a republic accepts one's fundamental duties and obligations as being basically moral as a basis of their legally binding character. The individual citizen as well as the institutional infrastructure of the Republic must be informed by a sense of moral as the foundation of the rule of law.

Duty-consciousness and awareness is indeed a virtue as well as a value. There is no denying the fact that it must be generated through formal education from primary to university level and teacher education programmes, as well as through non-formal education, adult education and inservice programmes, and through the media. In this regard, perceptive report of Justice Verma Committee on Fundamental Duties of Citizens (1999) has made valuable recommendations towards re-orienting curricular and co-curricular activities for teaching of fundamental duties and values, and operationalization strategies for the citizen, their representatives in legislatures, and public functionaries to discharge their fundamental duties according to defined expectations. It reognizes that "Societal approbation is always much stronger than legal sanctions. A significant intervention will be education of children through right curricula and effective preparation of teachers to handle these curricula". Being aware of the conduct of our 'honourable'(?) legislators, it observes that " Special efforts be made to ensure that our legislators are aware of (their) duties as the same are also their duties as citizens, which at present does not seem to be the case"[1] . It further accepts that obedience to obligations and responsibilities by the citizens cannot be entirely left to one's natural urge of obedience to norms, or to one's own conscience, or to following exemplar role models or even to social sanctions. Wherever necessary, suitable legislation should be enacted to fill up legislative vacuum with a view to requiring needed discipline for the obedience of obligations by the citizens. It reiterates the prevailing consensus among the thinking citizens that Fundamental Duties of citizens cannot be divorced from their Fundamental Rights. Indeed now time has come to foster responsibility and duties of citizens.

In a democratic age, currently, there no longer exist respectable alternatives to democracy as it is the part of the fashionable attire of modernity. However, it faces problems of governance which vary in different societies of variegated cultures and traditions. Over the last five decades, Indian democracy has faced acute problems and yet has survived despite its failings. In view of the derailment of Indian democracy by the unscrupulous manipulators of power by the self-serving caste, communal and regional leaders, and by opportunistic political parties controlled by money and muscle power, the imperative need of the hour is, that fundamental duties of the citizen, the authenticated political parties, peoples' representatives from Panchayats to Parliament, and of those holding any public office, must be codified, and, wherever necessary, suitable legislation should be enacted expeditiously to require obedience of obligations. Justice Verma Committee itself could have been very well asked in its terms of reference to formulate a module of fundamental duties, as a starting point to pave the way for the enactment of suitable legislation to follow, for ensuring operationalization of fundamental duties. Open, free and fair election of representatives of people, who are of integrity and character, is a *sine qua non* of a healthy and vibrant democracy. The phenomenon of communalization of politics on the basis of caste, sub-castes, ethnic or religious interests, its criminalization, and commercialization, has derailed the Indian parliamentary democracy into a manipulative democracy. Governments, produced by flawed and hijacked elections, are inefficient, corrupt, irresponsible, short-sighted, instable, and irresponsible. They are dominated by narrow interests and are incapable of adopting policies demanded by public good. Democracy and constitutional liberalism mean, subjectively, a good government which tenaciously pursues its goals of pursuing common good. Good governance entails duties and responsibilities of those entrusted with materializing the rule of the people. The crucial questions, which arise in regard to legally-binding and enforceable fundamental duties and which can ensure healthy and meaningful democracy, are:

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[1] Report of the Committee, 1999 Vol.1. 3.15 and 3.21 pp 10-11.

What exactly are the fundamental duties of the citizen as the repository of power in respect of participating in public affairs, electing freely one's representatives, and exercising constant vigilance on their conduct? What are the fundamental duties of the peoples' representatives inside and outside the elective bodies? What are the fundamental duties of the duly recognized political parties, of national or local level, in respect of selecting their candidates for election, formulating and implementing the election manifesto, and their role vis-à-vis the electorate in case they are in power, or in opposition? What are the fundamental duties of public servants or those holding a public office?

The prevailing political scenario of Indian democracy is: the voter's helplessness, indifference and even failing to caste the vote; the political parties utterly failing to select persons of integrity, their having no genuine commitment to the party manifesto, or to fulfilling their obligations, or the expectations of the people, and entering opportunistic alliances to acquire and retain power by any means; and total lack of integrity and discipline on the part of the peoples' representatives inside as well as outside the elective bodies, and their opportunistic floor-crossings and corrupt practices of all kinds; and last but not the least, a rampant devaluation of public offices by the holders of public offices as well as the civil servants.

It is high time that a high power Commission, or the Law Commission of India, or the Election Commission properly constituted (not comprising merely ex-civil servants) be entrusted the task of codifying the fundamental duties of all the actors of parliamentary democracy with a view to providing a desired balance between freedom and responsibility. Furthermore, a set of binding codes of conduct of punitive nature must be framed, particularly relating to effective, peaceful, and fruitful functioning of legislative bodies, disciplined behaviour of ministers, legislators, governors, civil servants, functionaries of the judiciary, police, public commissions, social, educational and religious institutions, business and professionals. These must categorically prescribe for them what to do and what not to do, failing which a delinquent must be subjected to penalties. In particular, the fundamental duties of the public servants and those holding public offices must be clearly elaborated and made enforceable because they masquerade as public servants while in fact they have become real masters with no effective accountability. In this regard it is noteworthy to be guided by "The Principles of Public Life" enunciated by UK's Lord Nolan Committee on Standards in Public Life to which Verma Committee on *Fundamental Duties of Citizens* has also referred[1] . These apply to all aspects of public life and are reproduced as below:

- *Selflessness:* Holders of public office should take decisions solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.
- *Integrity:* Holders of public office should not place themselves under any financial or other obligation to outside individuals or organizations, that might influence them in the performance of their official duties.
- *Objectivity:* In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.
- *Accountability:* Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

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[1] Report of the Committee Vol.1. 3 "Scope of Deliberataions", 3:13, pp 9-10

- *Openness:* Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.
- *Honesty:* Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.
- *Leadership:* Holders of public office should promote and support these principles by leadership and example.

In the view of the present writer, the use of the word "should" in above principles must be replaced by "Shall" in any binding code of conduct.

Codification of fundamental duties will further require a translating mechanism and operationalization strategy for creating requisite ambience and putting an upright public behaviour in practice. For achieving this, an in-depth exercise to identify the acceptable and realistic fundamentals is called for which can indeed be acted upon. Democracy, without a commitment to enforceability of fundamental duties and obligations, is not simply inadequate, but dangerous, bringing with it the erosion of liberty and fundamental rights, the abuse and misuse of power, the divisions of all kinds, and even violence and war. We need to form a consensus on the point that the common good requires that we speak up and enunciate basic values of democratic civil society and codify entailing fundamental duties. Respect for our fundamental rights demands that, along with them, fundamental duties and responsibilities too be given equal importance with ethical as well as legal base. There already exists a move at international level for adopting a Universal Declaration of human responsibilities as complement to the UN Declaration of Human Rights with a view to balancing disproportionate upsurge of human rights with an equal emphasis on human obligations[1]. At the national level primarily, fundamental duties of citizens need to be spelled out and elaborated for operationalization and enforceability of fundamental duties with a view to peaceful and harmonious realization of aspirations of the people. This will rectify the mistake of exclusive insistence on fundamental rights, and their abuse, which is leading to endless disputes and conflicts. In order for democracies to be sustained, the rights and the powers of decision-makers, of citizens and representatives alike, must be constrained and subjected to binding obligations and duties.

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[1] See Proposed Draft of A Universal Declaration of Human Responsibilities, Report of the Conclusions and Recommendations of a High Expert Group formed by Inter-Action Council Chaired by Helmet Schmidt, former Chancellor of the Federal Republic of Germany and Malcolm Fraser, former Prime Minister of Australia (1997). Vienna, Austria. See Appendix.

Appendix

Universal Declaration of Human Responsibilities (Proposed by the Inter-Action Council)

Preamble

Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world and implies obligations or responsibilities,

Whereas the exclusive insistence on rights can result in conflict, division, and endless dispute, and the neglect of human responsibilities can lead to lawlessness and chaos,

Whereas the rule of law and the promotion of human rights depend on the readiness of men and women to act justly,

Whereas global problems demand global solutions which can only be achieved through ideas, values, and norms respected by all cultures and societies,

Whereas all people, to the best of their knowledge and ability, have a responsibility to foster a better social order, both at home and globally, a goal which cannot be achieved by laws, prescriptions, and conventions alone,

Whereas human aspirations for progress and improvement can only be realized by agreed values and standards applying to all people and institutions at all times,

Now, therefore, The General Assembly

Proclaims this Universal Declaration Human Responsibilities as a common standard for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall contribute to the advancement of communities and to the enlightenment of all their members. We, the peoples of the world thus, renew and reinforce commitments already proclaimed in the

Universal Declaration of Human Rights: namely, the full acceptance of the dignity of all people; their inalienable freedom and equality, and their solidarity with one another. Awareness and acceptance of these responsibilities should be taught and promoted throughout the world.

Fundamental Principles for Humanity

Article 1

Every person, regardless of gender, ethnic origin, social status, political opinion, language, age, nationality, or religion, has a responsibility to treat all people in a humane way.

Article 2

No person should lend support to any form of inhumane behavior, but all people have a responsibility to strive for the dignity and self-esteem of all others.

Article 3

No person, no group or organization, no state, no army or police stands above good and evil; all are subject to ethical standards. Everyone has a responsibility to promote good and to avoid evil in all things.

Article 4

All people, endowed with reason and conscience, must accept a responsibility to each and all, to families and communities, to races, nations, and religions in a spirit of solidarity: What you do not wish to be done to yourself, do not do to others.

Non-violence and Respect for Life

Article 5

Every person has a responsibility to respect life. No one has the right to injure, to torture or to kill another human person. This does not exclude the right of justified self-defense of individuals or communities.

Article 6

Disputes between states, groups or individuals should be resolved without violence. No government should tolerate or participate in acts of genocide or terrorism, nor should it abuse women, children, or any other civilians as instruments of war. Every citizen and public official has a responsibility to act in a peaceful, non-violent way.

Article 7

Every person is infinitely precious and must be protected unconditionally. The animals and the natural environment also demand protection. All people have a responsibility to protect the air, water and soil of the earth for the sake of present inhabitants and future generations.

Justice and Solidarity

Article 8

Every person has a responsibility to be have with integrity, honesty and fairness. No person or group should rob or arbitrarily deprive any other person or group of their property.

Article 9

All people, given the necessary tools, have a responsibility to make serious efforts to overcome poverty, malnutrition, ignorance, and inequality. They should promote sustainable development all over the world in order to assure dignity, freedom, security and justice for all people.

Article 10

All people have a responsibility to develop their talents through diligent endeavor; they should have equal access to education and to meaningful work. Every one should lend support to the needy, the disadvantaged, the disabled and to the victims of discrimination.

Article 11

All property and wealth must be used responsibly in accordance with justice and for the advancement of the human race. Economic and political power must not be handled as an instrument of domination, but in the service of economic justice and of the social order.

Truthfulness and Tolerance

Article 12

Every person has a responsibility to speak and act truthfully. No one, however high or mighty, should speak lies. The right to privacy and to personal and professional confidentiality is to be respected. No one is obliged to tell all the truth to everyone all the time.

Article 13

No politicians, public servants, business leaders, scientists, writers or artists are exempt from general ethical standards, nor are physicians, lawyers and other professionals who have special duties to clients. Professional and other codes of ethics should reflect the priority of general standards such as those of truthfulness and fairness.

Article 14

The freedom of the media to inform the public and to criticize institutions of society and governmental actions, which is essential for a just society, must be used with responsibility and discretion. Freedom of the media carries a special responsibility for accurate and truthful reporting. Sensational reporting that degrades the human person or dignity must at all times be avoided.

Article 15

While religious freedom must be guaranteed, the representatives of religions have a special responsibility to avoid expressions of prejudice and acts of discrimination toward those of different beliefs. They should not incite or legitimize hatred, fanaticism and religious wars, but should foster tolerance and mutual respect between all people.

Mutual Respect and Partnership

Article 16

All men and all women have a responsibility to show respect of one another and understanding in their partnership. No one should subject another person to sexual exploitation or dependence. Rather, sexual partners should accept the responsibility of caring for each other's well-being.

Article 17

In all its cultural and religious varieties, marriage requires love, loyalty and forgiveness and should aim at guaranteeing security and mutual support.

Article 18

Sensible family planning is the responsibility of every couple. The relationship between parents and children should reflect mutual love, respect, appreciation and concern. No parents or other adults should exploit, abuse or maltreat children.

Conclusion

Article 19

Nothing in this Declaration may be implying for any state, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the responsibilities, rights and freedom set-forth in this Declaration and in the Universal Declaration of Human Rights.

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Rights of the Child

The Obligations of Parents, Teachers, Society and the Government

JUSTICE M. RAMA JOIS*

"Today's children are tomorrow's citizens" is the oft-repeated slogan by educationists, politicians and social leaders whenever they address the gathering of school children. It is undoubtedly true. But the question is what type of citizens they would become? Whether they become learned men/women of sterling character, physically strong and healthy, devoid of bad habits and well determined and become an asset for the society? or Whether they would become drop-outs at school level, do not acquire sufficient knowledge or expertise in higher education, devoid of good character, physically weak and unhealthy, addicted to bad habits, such as smoking and consumption of alcohol and consequently instead of becoming assets, they become liability to their family and the nation? It depends upon how the parents, teachers, the society and the Government discharage their obligtion towards the children. Bearing in mind the above aspect, rights of the child have to be considered.

When we think of rights of any_individual, it always means that the individual is capable of enforcing those rights as and when it becomes necessary, through Courts and Tribunals or any other appropriate forum. But the children are not in a position to enforce their rights. Therefore, when we think of rights of children, it means the obligations of parents, teachers, the society and of the Government. Such an apporach is pre-eminently suited to the values evolved in Bharatiya Cultural Values, which established a duty-based society instead of making a right-based society.

The unique method evolved by the great thinkers who moulded the civilization and culture of Bharat was to secure the rights to every individual by creating a corresponding human duty in other individuals. They considered that sense of right always emanates from selfishness whereas the sense of duty always generates selflessness.

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Therefore, instead of making the right as the foundation of social life and establishing a right-based society, the ancient philosophers of this land preferred to establish a duty-based society, where the right given to an individual was the right to perform his duty. This is the mark of distinction of our social and national life.

In this Article, I refer to the duty aspects which leads to fulfilment of rights of children.

The United Nations Covention on the Right of Child was adopted on 20 November 1989. It has in all 54 articles relating to the right of child. It has been ratified by over sixty countries. The year 1990 was celebrated as the year of Girl child by the member countries of SAARC which includes India. The important aspects covered by the Convention are:

(a) *Survival rights*, from the child's right to life through the most basic needs, including food and shelter and access to health care.

(b) *Development rights*, or all those things that children require in order to reach their fullest potential, from education and play to freedom of thought, conscience and religion.

(c) *Protection rights*, requiring that children be safeguarded against all forms of abuse, neglect and exploitation.

There are various kinds of rights to which every child is entitled and correspondingly there is obligation on the part of the parents, teachers, the society and the Government to fulfill those obligations and thereby give effect to the rights of the children. The field is very vast. Therefore, I am confining to a few basic rights.

Right to be Born

The moment a child is conceived in the womb of the mother, it acquires a right to be born. It is therefore the duty of the parents to ensure that the mother is taken care of properly, so that the child gets fully developed in the womb and is born. Any attempt to prevent the birth of the child is clearly violative of the rights of the child in the womb and is recognized as an offence in law. For example, Section 312 of the Indian Penal Code prohibits causing miscarriage as an offence and the person responsible for doing so is liable to be punished by way of imprisonment for a period of three years. Section 313 provides that causing of abortion without the consent of the mother is a serious offence punishable with imprisonment for ten years. Similar provision is prescribed in Section 314 for causing death or miscarriage. Section 315 declares that any act to prevent the birth of a child as an offence and according to Section 316, causing death of an unborn child is also a serious offence punishable with imprisonment for ten years.

It should be pointed out that Rigveda, which is the earliest document, condemns *bhruna hatya* (killing of foetus) as a sin. Section 416 of the Indian Penal Code provides that in the case of a pregnant woman against whom death penalty is imposed by the Court, the High Court has the power either to convert death sentence to life imprisonment or to postpone the execution of the sentence.

Unfortunately, these penal provisions are violated secretly and offences are committed on many occasions killing the foetus or the fully developed child in the womb for more than one reasons, either having an eye on the property or on account of enmity or for any other reason.

It is the duty of the parents who are responsible for the child in the womb and particularly the mother to ensure that the right of the child to be born is protected. In particular, the ethics of the medical profession demands that the doctors should not cause abortion and doing so constitutes an offence under the aforesaid Sections of the Indian Penal Code. But unfortunately, there are doctors who readily come forward to cause abortion just for the sake of some money.

Mitakshara, an authoritative interpretation of *Yajnavalkya Smriti* holds that a male child in the womb acquires a right to a share in the ancestral property and, therefore, if any partition had been effected at the time when the child was in the womb, it has got to be reopened and a share has to be given to the child born subsequently.

Rampant Female Foeticide

One social evil leads to another as is evident by the fact that the social evil of dowry has led to the killing of female foetus and for this purpose, the medical science is being misused.The medical science has invented a test called 'Amniocentesis', by which a doctor can find out the sex of the child in the womb. This test is being misused by parents, particularly in some of the states like

Haryana, Uttar Pradesh and other states where the evil of dowry is rampant. The parents approach the doctor for conducting the Amniocentesis Test and if it were to found that the child in the womb is a female, to finish it at that stage and the greedy doctors, unmindful of professional ethics, readily indulge in killing female foetus. For this purpose, Medical Termination of Pregnancy Act, 1979 is being misused by the doctors. The said act was enacted authorizing the medical practitioners to cause abortion if it was essential to save the life of the mother or it was found that the child going to be born would have physical deformity. The doctors are misusing this Act and give a false certificate to that effect to justify their action and kill the female foetus. Misuse of this provision in a large scale had been brought forth in a heart-rending investigative article by A.K. Features, New Delhi, in the year 1982. A relevant paragraph of the said article reads:

> Discrimination against women thus, begins in the womb itself. It is now possible to predict with almost cent per cent accuracy the sex of an unborn child. The process is called Amniocentesis by which the sex of the foetus can be established and abortion carried out if so desired. These tests were initially carried out to detect genetic disorders but now they are being blatantly misused by unscrupulous doctors who are cashing in on the fact that the dice is loaded heavily in favour of boys in our society. It is estimated that between 1978 and 1982, nearly 80,000 female foetuses were aborted after sex determination tests had shown they were of 'inferior and unwanted sex'.

On account of this alarming trend, a Member of Parliament Sri Sharad Dighe introduced a bill in the Parliament seeking amendment to Medical Termination of Pregnancy Act, 1971, providing that any doctor misusing the act for killing female foetus should be debarred from medical profession.

On account of the grave penal offences committed by the parents and doctors joining hands together, violation of the rights of a female child to be born has become rampant and undetectable. But the consequence of large scale killing of female foetus is out in the recent census. The figures point out that in some of the states, the male and female ratio which used to be approximately equal has come down drastically to 1000 : 800 or to 900. This has sent an alarming signal. Now the Government and some of the social leaders feel that this will lead to disastrous results.

This has also brought about the attitudinal change towards *Dharma* and also the Religion. The Government which always dubs the preaching of *Dharma* or Religion as communal and menace to the society, had organized a Seminar on the topic on 26 June, by inviting as many as 250 religious leaders including Sri Shankaracharya Jagadguru Jayendra Saraswathi of Kanchi Kamakoti Peetham to undertake measures to stop the killing of female foetus. This would clearly establish that the preventive power of *Dharma* is far superior to that of a legislative power. It is also a matter of common knowledge that because of a directive by the Pope, many Roman Catholic Doctors refuse to cause abortion however much may be the amount offered.

Whatever that may be, the evil has to be fought both at the cultural value level as well as at the legislative level. It should be considered as a heinous offence to get the female foetus killed and a flagrant violation of the right of the child to be born. Similarly, persons in the medical profession should consider it as unethical and amounts to heinous offence to cause abortion of female foetus by giving false certificate under the Medical Termination of Pregnancy Act and put an end to this social evil. Law on the lines of the Bill introduced by Sri Dighe should be made and deterrent penalty should be imposed not only on the doctors, but also on the parents for committing the offence of female foeticide.

Right to Survival/Protection

Once a child is born, it has got a right to survive and to have every type of protection necessary for its development and growth. In a recent book entitled *Child Survival under Threat* by Dominic E. Azuh, the facts and figures relating to infantile mortality has been given. The figures point out that the child survival among poor people is around 80% and among middle class it is around 85% and in the higher category it is around 89%. The above figures indicate that poor sanitation, quality of drinking water and quality of ventilation, the quality of food, lack of medical health facilities and other living conditions have a direct bearing on the question of child survival. It is therefore, the obligation of the State through its Health Department to ensure necessary protection in the matter of sanitation, drinking water and medical assistance to the poor section of the society and reduce the infantile mortality rate. The measures taken by the Health

Department should include all measures to prevent the child becoming a victim of various diseases. The State should give priority for measures to be taken for the survival of the child in order to protect the right of the child for survival and protection.

Right to Education

Every child has the right to education. As pointed out in the first para, this right of the child can be implemented or given effect to only by the discharge of pious obligation of the parents, teachers, the society and the State. Sarvajna Narayana in his celebrated work entitled *Hitopadesha* [*Prastavika*— 38-39] has stated thus:

मातापितृकृताभ्यासो गुणितामेति बालकः।
न गर्भच्युतिमात्रेण पुत्रो भवति पण्डित॥ ३७॥
माता शत्रुः पिता वैरी येन बालो न पाठितः।

> "A child educated by parents becomes accomplished. A child does not become a learned person by merely being dropped by the womb. That mother is an enemy and father is a foe of their children, who do not educate the child".

The above strong expression of the view in *Hitopadesha* is sufficient to indicate the obligation of the parents and indict the parents who are guilty of dereliction of duty in the matter of securing education for their children. Thus, it is not sufficient for the parents to produce children. Having produced children, it is the obligation of the parents to see that the right to have education is fulfilled. In this regard, it should be pointed out that there are so many factories to produce various articles required for humanity. But which is the factory which can produce good citizens using the raw material namely children? Such factory for manufacturing good citizens firstly is the family and secondly the educational institutions. If these institutions fail to perform their obligations, the children will become a liability to the nation/humanity.

Therefore, great importance was given to the family and the teachers in our culture. It was regarded as the fundamental unit of the society and it was the duty of every householder to discharge *Pitruruna*, a pious obligation towards his parents, which meant that just as he was given education and protection by his parents, it is the obligation of the son or the daughter as the case may be to give similar education and protection to their children and thereby make them good future citizens, and thereby discharge their pious obligations.

Secondly, it is the teachers who are responsible to provide good education to the children. Guru was eulogized as Brahma (the creator), the Vishnu (the protector) and Maheshwara (the destroyer). The purport of this was that it is the Guru who creates or generates good qualities in his students, it is he who protects him in all respects and it is he who destroys the bad qualities. By these processes, an individual gets a second birth as a good human being. Thus, the role of teacher is noble. Thirdly, it is the responsibility of the society and the State to establish/give aid to educational institutions and to ensure that oppotunity to have education is made available to all sections of the society, particularly for the children. It is for this reason, that the founding fathers of our Constitution incorporated Article 45 in Part-IV under which it was provided that it was the fundamental duty of the State to provide free and compulsory education to all children until they complete the age of 14 years.

Article 21 of the Constitution provides that every citizen has the right to life and liberty. The Supreme Court in the case of Unnikrishnan [A.I.R., 1993 S.C. 2178] declared that the right to life includes right to education. The Supreme Court, while stressing the importance of education to live as a human being also relied on *Neeti Shataka* of 1st Century BC in which Barthruhari declared that "a man without education is equal to animal" (*Vidya Viheenah Pashuhu*) and therefore every child has the fundamental right to education. But unfortunately, the required priority for imparting primary education to the children has not been fulfilled by the Government.

According to the document entitled *Challenges of Education*, published by the Government of India sometime in 1985, the illiterate population in India will be 500 million by 2000 and it would be 54% of the world's illiterate population. It is sufficient proof of the failure on the part of the Government of Independent India to discharge its primary obligation to provide primary education to the children even after five decades.

In a recent seminar held at the Institute for Social and Economic Change, at Bangalore on *Cost and Wastage in Primary Edcuation*, it has come to light that the Government had not appointed primary school teachers and as a result thousands of posts of primary school teachers were vacant and the Government had not appointed teachers even to single teacher primary schools, which has been the cause for not providing primary education to all the children and also for considerable number of drop-outs at the primary level. This has resulted in colossal waste.

Quality of Primary School Teachers

It is well-known in the field of education that children learn more by emulation than instructions. Therefore, it is essential that the quality of teachers appointed to primary schools should be very good, in that, apart from fulfilling the academic qualifications, the teachers must be of good character and devoid of bad habits. In fact, the experience prior to five decades has been that teachers by and large were very noble men with sterling character bereft of bad habits. But unfortunately, in recent times, the only importance given while appointing teachers is to their possessing prescribed educational qualifications and not to their character and habits. As a result, there are large number of primary school teachers who indulge in smoking, consumption of alcohol and consequential bad behaviour or character. They give a very bad example to the children and many children learn such bad habits through their teachers. Therefore, it is necessary that as a condition for appointment as well as for continuing as a Primary School Teacher they should be free from bad habits, like smoking and drinking of alcohol.

Right to have Pre-Primary Oral Education, General Knowledge and Morals

Traditionally children were receiving excellent oral education from the parents, in the form of relating of stories of patriots, saints and of social reformers, arithmetic, prayers to God, Bhajans, etc. This has now become obsolete. It has also become impracticable in view of the stress and strains of modern life. This part of education is very essential and therefore should form part of pre-primary education. Special schools/classes should be established to give this type of oral education before the children are admitted to primary schools.

Right to have a Proper Environment

Just as the children learn from emulation, in that they are influenced by the conduct of their teachers and parents, they are also similarly influenced by the Environment. All educational experts are of the view that for a proper education, there should be proper environment. Article 39(f) of the Constitution makes it obligatory for the State to ensure that the children and youth are protected against moral and material abandonment. This Article is intended to ensure that proper environment is provided for aiding healthy developlment of children. Therefore, the Government has been under an obligation to ensure that the children are not exploited by those whose only aim is to make money even at the cost of national interest. The society is also under an obligation not to exploit the children for making money. But this obligation is obeyed in its breach. To illustrate, the visual education is the most powerful form of education and it makes an indelible impression on the minds of the young children. Films could have provided good visual education. Unfortunately, however, the producers of the films have only one aim of making money and for that purpose they produce films most of which are highly provocative and give encouragement to the baser instincts. If one sees the films which have been produced for the last 50 years, most of the films give vulgar exhibition of lust, sex and crimes and particularly crimes against women, which are of the most heinous type. They foul the entire environment and create a very bad environment for the children. Similarly, those who run periodicals and magazines have also been indulging in publishing obscene materials or materials which provoke baser instincts and provide bad environment to the children. On this aspect, both the society and the Government are grossly guilty. In this regard it is sufficient to quote what justice Sri V. R. Krishna Iyer, speaking for the Supreme Court of India said while commenting on the obscenity which was being exhibited in a film though its title was 'Satyam Shivam Sundaram' (A.I.R., 1980, S.C. 258) which reads:

> It is deplorable that a power for good like the cinema, but a subtle process, and these days, by a ribald display, vulgarizes the public palate, pruriently infiltrates adolescent minds, commercially panders to the lascivious appetite of rendy crowds and inflames the lecherous craze of the people who succumb to the seduction of sex and resort, in actuallife, to 'horror' crimes of veneral violence. The need to banish cinematographic pornos and the societal strategy in that behalf had led to the Cinematograph Act, 1952. The Censor Board, under this Act is charged with power to direct doctoring, tailoring, sanitizing

and even tabooing films so that noxious obscenity may not befoul and erotic aroma make mass appeal (PARA - 13 at PP-2261-262).

Two things deserve mention before we close. Prosecutions like this may well be symptomatic of public dissatisfaction with the Board of Censors not screening vicious films. .... pictures which pollute public morals are liberally certificated, the legislation, meant by Parliament to protect people's good morals, may be sabotaged by statutory enemies within. Corruption at that level must be stamped out (Para - 10 at PP-608 of A.I.R. 1980 S.C. 605).

The Producers' aim is to make money for there is greater attraction always to baser instincts, and those who certify such films also make money.

A few years back, Sri Shantharam, a doyen of the Film World lamented that for the most of the crimes committed in the country and the methods adopted in doing crimes, the inspiration and guidace came from the films. After the Doordarshan came into existence about 30 years back, it is also indulging in exploiting children and youth by visual documentaries and films which are highly provocative for indulging in sexual crimes. Thus, both the society and the State and the Central Government are grossly guilty by being silent spectators. The Producers of such films have only one aim of making money and they do not care either for the ruination of the children and the youth, including their own, or for the damage caused to the future of the nation. Instead of protecting the right of the children for proper education, everything is being done to destroy the right of the children to get right education by creating a bad environment.

Right to be Protected by Parents

The family is the fundamental unit of the society. In our culture, from most ancient times greater importance has been given to the householder (*Grihastashrami*). It was declared that it was the responsibility of the householder to maintain all the members of the family including the children and give them full economic protection, provide education to the children and mould their character. Even the United Nations has declared that the family is the fundamental unit of the society and it requires to be protected. But unfortunately, on account of total materialistic outlook and predominance given to sexual enjoyment, the family system is crumbling. In this regard as to what is happening in the USA has been the subject matter for study and report. Relevant portion of the report reads:

> Millions of children in the United States are suffering as a result of increasing divorces wich have swept the country in recent years, reports DPA.
>
> Experts believe that the children are playing the price for the fact that the institution of marriage has been undermined.
>
> "Until death do us part" has now been replaced by "as long as I am happy". Anybody marrying in the US today has a 60% chance of eventually being divorced.
>
> The results can be seen in the dramatic rise in crime among the young, drug and alcohol abuse, suicide, depression and poverty.
>
> According to experts at the Council of Families in America, based in New York, the children and youth of today are the first generation in the history of the US who are psychologically, morally and economically worse off than their parents were at the same age.
>
> Experts say US society has utterly failed to convince the next generation that marriage is a good thing.
>
> The study, entitled *Marriage in America — Report to the Nation* was issued recently by the Council, which is an independent body. It warns that should this trend continue, it would represent nothing less than an act of cultural suicide.
>
> This pessimistic point of view is not being expressed by conservative politicians, but by men and women with mainly middle-of-the-road political ideals and values.
>
> Within just two decades, from 1970-1990, the percentage of adults in the US who are married had dropped from 72 to 62.
>
> The mothers of over two-thirds of the black babies born today in the US are unmarried. Over one-third [36%] of all children today live without their fathers.
>
> Violent crime by youth has increased sixfold since 1960. Thrity-eight per cent of Americans living in poverty are children. (*The Statesman*, 31-05-1995, page 6).

The above state of affairs will not be confined to America. It is like an epidemic disease spreading to all the countries of the world including India. We must prevent it with all the power at our command. The predominance given to mere sexual enjoyment has resulted in breaking of families by the spouses going in for new ones as frequently as they go for a new vehicle or any other new article.

Law Necessary to Prevent Producing of Illegitimate Children

Breaking down of marriage system has encouraged the indulgence in sexual enjoyment without marriage, giving rise to another problem of having illegitimate children.

Those who have been born as illegitimate children, undoubtedly have all the human rights which the legitimate children have, but they have to carry on their head stigma of being illegitimate children throughout their life for no fault of their, but on account of the illegal acts or sins of the man and the woman who brought about his/her birth.

Realising this aspect, *Mahabharata* declared that procuring children only through one's wife was one of the rules of Dharma (*Prajanashweshu Dareshu*). This rule is being violated by many. Time has therefore come to enact a law for declaring that producing illegitimate children is a social offence and prescribing deterrent punishment.

About two years back, I had an opportunity to go to Durban. There I was taken to an orphanage which was run by the Arya Samaj of South Africa. That orphanage provided hostel and education facilities. There were as many as 500 inhabitants. I asked the Chief Person managing the orphanage as to whether they were orphans in the sense, whose parents are not alive. The answer was shocking. He said that all the children were all from broken homes, in that, their father and mother were alive, but had deserted/divorced each other. This is the result of modern civilization where a 'throw away' attitude prevails over a sense of gratitude and duty as a householder and where sexual enjoyment prevails over parental obligations. Here again resurrection of the cultural value based on Dharma is the appropriate remedy and not the law.

Right against Child Abuse

On account of the greater importance given to sex in cinema, television and magazines and also books, moral degradation has reached an abysmal depth. Abuse of innocent children for unnatural/immoral sexual enjoyment also has reached alarming proportions. Instances of rampant child abuse quoted in a recent book under the title *Bitter Chocolate* authored by Pinki Virani are shocking. In the book, it is stated that minimum of 20% of the girls and boys under the age of 16 are regularly being sexually abused; half of them in their own homes, by adults who have the child's trust. They are worse than animals, not fit to be called human beings.

The remedy for this again lies in resurrecting Bharatiya Cultural Values. The alarming situation arises on account of giving greater importance to sex and sexual enjoyment, totally ignoring the warning given by Swamy Vivekananda that values of human life based on Dharma and the resultant samskriti constitute the soul of our Nation and their destruction is disastrous not only for Bharat, but also for the entire humanity. His warning words read as follows:

> "Shall India die? Then from the World all spirituality will be extinct, all moral perfection will be extinct, all sweet-souled sympathy for religion will be extinct, all ideality will be extinct, and in its place will reign the duality of lust and luxury as the male and female deities, with money as its priest fraud, force and competition as its ceremonies, and the human soul as its sacrifice".

The message is loud and clear. If Dharma which is the soul of India perishes, then India which is the personification of Dharma dies and those will be the consequences.

Infact, because of the deterioration of values of Dharma, owing to the adverse influence of physical enjoyment based on western life style, we are already having the taste of such a consequence. The TV and Cinema indulge in shamless presentation of lust and related crimes. Obscene advertisements for commercial purposes, ugly exhibition of beauty in the guise of beauty competitions, are going on in such a scale as would destroy the moral and physical fabric of the children. Viewing of cinemas and TV give an impression that sexual enjoyment is perhaps the paramount goal of life. The result is that the value of *Dharma*, that union of man and woman by marriage-bond alone is good and moral, is destroyed and the baser instincts are encouraged in children and youth. Therefore, before it is too late, we must heed to the warning of Swami Vivekananda and prevent destruction of *Dharma* and *Samskriti* and save humanity from a catastrophe.

Immoral Traffic

Over importance to sex and the instigation provided to the males to indulge in sexual enjoyment disregading all moral codes, has resulted in another social evil of trading in girl children and engaging them later in prostitution again to make money. To check this evil, the Parliament has enacted the Immoral Traffic (Prevention) Act, 1956. This Act provides for prosecuting persons indulging in sale of girls for sexually exploiting them for commercial purposes and also for establishment of protective homes to prevent them from indulging in prostitution or to rehabilitate those who had already been exploited.

Right to Protection against Exploitation

Now I proceed to the laws enacted by the Parliament to protect the rights of the children.

Child Act of 1960 : This Act was enacted for the care, protection, maintenance, welfare, training, education and rehabilitation of neglected or delinquent children and of the trial of delinquent children.

Child Labour (Prohibition and Regulation) Act, 1986 : This Act was enacted to achieve the following objects—

[a] ban the employment of children, i.e. those who have not completed their fourteenth year, in specified occupations and processes;

[b] lay down a procedure to decide modifications to the schedule of banned occupations or processes;

[c] regulate the conditions of work of children in employment where they are not prohibited from working;

[d] lay down enhanced penalties for employment of children in violation of the provisions of this Act, and other Acts which forbid the employment of children; and

[e] to obtain uniformity in the definition of "child" in the related laws.

The Hon'ble Supreme Court in the case of M.C. Mehta (1996 (6) S.C.C. 756) has held that it was the paramount duty of the State to implement the provisions of the Act and also to implement the law laid down by the Supreme Court in the case of Unnikrishnan interpreting Article 45 of the Constitution and holding that it was the obligation of the State to provide primary education to all the children up to the age of 14 years.

Juvenile Justice Act, 1986 : This Act was enacted by the Parliament to provide for the care, protection, treatment, development and rehabilitation of neglected or delinquent juveniles and for the trial fo delinquent juveniles, as a law for the whole country, repealing various enactments which were in force in different States. According to the said Act, 'juvenile' means a boy who has not attained the age of 16 and a girl who has not attained the age of 18 years. The Act provided for establishing juvenile Welfare Boards entrusted with the responsibility of looking after the interests of the juveniles and for proper implementation of the Act. Section 5 of the Act provided for establishing Juvenile Courts for dealing with the cases against Juveniles. Section 41 of the Act provided for punishment for cruelty to a juvenile. Section 42 of the Act prohibits employment of juveniles for begging. Section 43 of the Act provides for punishment for giving intoxicating liquors or narcotic drugs to juveniles. Section 44 of the Act provides for punishment for exploitation of juvenile employees. The Act also provided for enforcement of the provisions which are intended to protect the rights of the children. Section 33 of the Act provided that in making any orders in respect of juveniles under the Act, the competent authority should take into consideration the following aspects namely, the age of the juvenile, the state of physical and mental health of the juvenile, the circumstances in which the juvenile was and is living; the reports made by the probation officer, the religious persuasion of the juvenile, such other circumstances as may, in the opinion of the competent authority, require to be taken into consideration in the interest of the welfare of the juvenile.

The Supreme Court of India in the case of Gaurav Jain vs Union of India (1997 (8) S.C.C, 114) has dealt with the topic of doing Social Justice to Children, which is an exhaustive judgment not only on the interpretation of Article 38 but also Universal Declaration of Human Rights including the rights of the children by the United Nations as also the provisions of the Juvenile Justice Act, 1986. The relevant portions of the judgment read:

"Article 1 of the Universal Declaration of Human Rights provides that all human beings are born free and equal in dignity and rights. [PARA-6]

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Article 6 postulates that State parties recognise that every child has the inherent right to life which is already granted by Article 21 of the Constitution of India which has been interpreted expansively by this Court to make the right to life meaningful, socially, culturally, economically, even to the deprived segments of the society with dignity of person and in pursuit of happiness. [Para-10]

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Article 32 recognises the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education or to be harmful to the child's health or physical, mental, spiritual, moral or social development. Articles 34, 36 and 37(a) are equally relevant and read as under:

34: State Parties undertake to protect the child from all forms of sexual exploitation and sexual abuse. For these purposes, State Parties shall in particular take all appropriate national, bilateral and multilateral measures to prevent:

(a) the inducement or coercion of a child to engage in any unlawful sexual activity.

(b) the exploitative use of children in prostitution or other unlawful sexual practices.

(c) the exploitative use of children in pornographic performances and materials.

36: State Parties shall protect the child against all other forms of exploitation prejudicial to any aspect of the child's welfare.

37(a): State Parties shall ensure that—

> No child shall be subjected to torture or other cruel, inhuman or degrading treatment or punishment. Neither capital punishment nor life imprisonment without possibility of release shall be imposed for offences committed by persons below 18 years of age". [Para-13]

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The Juvenile Justice Act, 1986 was enacted to provide for the care, protection, treatment, development and rehabilitation of neglected or delinquent juveniles and for the adjudication of such matters relating to disposition of delinquent juveniles. The pre-existing law was found inadequate to tie over social knowledge, instrument, delinquency or improvement of the child. The Act sought to achieve a uniform legal framework for juvenile justice in the country as a whole so as to ensure that no child, in any circumstance, is lodged in jail and police lock-up. This is being ensured by establishing Juvenile Welfare Boards and Juvenile Courts to deal adequately with the subject. The object of the Act, therefore, is to provide specialized approach towards the delinquent or neglected juvenile to prevent recurrence of juvenile deliquency in its full range keeping in view the developmental needs of the child found in the situation of social maladjustment. That aim is secured by establishing observation homes, juvenile houses, juvenile homes for neglected juveniles and special homes for delinquent or neglected juveniles. [Para-18]

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Children of the world are innocent, vulnerable and dependent. They are also curious, active and full of hope. Their life should be full of joy and peace, playing, learning and growing. Their future should be shaped in harmony and cooperation. Their childhood should mature, as they broaden their perspectives and gain new experience. *Abondoning children, excluding good foundation of life for them, is crime against humanity.* The children cannot wait till tomorrow; they grow everyday; along with them grows their sense of awareness about the surroundings. Tomorrow is no answer; the goal of their present care, protection and rehabilitation is the need of the hour. [Para-30]

The above judgment brought out the objects and purposes of the Act and the need for protection of the rights of the children. All these laws themselves do not safeguard the interest of the children, unless all the concerned persons, parents and all the governmental authorities jointly act and implement the laws faithfully. Workshops on the working of the laws should be held frequently to motivate the officers concerned to impress upon them the importance of protecting the rights of the children and thereby to make them as good citizens. More than this, the obligation of parents, society and the Government to protect the rights of children must form part of education at higher level of education and should be a topic for mass education through mass media. A concerted effort should be made to protect and effectively implement the rights of the children of today to make them the right citizens of tomorrow.

Remembering J.P.

RAJA ROY SINGH*

To all his friends, J.P. Naik was known and spoken of as J.P. This was indeed a tribute because to be instantaneously recognized by initials is due recognition.

I was well-acquainted with J.P. the writer long before I met him in person, through his monumental history of Indian education and the publications of an Institute of Education he was instrumental in setting up in Bombay.

We met face-to-face when he joined Central Ministry of Education as Adviser. I remember the occasion vividly even across a wide span of about thirty-five years. We talked (rather he talked and I listened), simply and in out-going style. We had both been assigned by the Ministry to 'do' elementary education. In that simple first-meeting conversation, we both knew that there was no possibility of conflict or of 'turf war' or 'bypassing maneouvers' (so characteristic of bureaucracy at its shoddiest) in our working relationship. All my subsequent work with J.P. confirmed the first impression of J.P.'s style of work — his capacity to offer, and also to win, confidence and his unbounded enthusiasm and zest for education ideas and educational action.

Shortly before our first-meeting, J.P. had attended as India delegate a UNESCO meeting held at Karachi to prepare a regional plan for universalization of primary education in Asia. The meeting brought out what became famous internationally as the Karachi Plan (1960) for universal primary education in Asia. J.P. was, I learnt subsequently, the principal architect and 'better' of the Karachi Plan under UNESCO auspices. It was the first plan of its kind at international level and became a model for a series of regional plans, for Africa and other regions.

At my first meeting with J.P., he made no reference to his recent work on the Karachi Plan, beyond a casual mention of the 'profile' of primary education targets in Asian countries. It was only some years later when I was working for UNESCO that I learnt first-hand accounts from UNESCO experts who had attended the meeting at Karachi, of the stupendous effort J.P. had put-forth in developing the plan. One of the UNESCO experts told me, "Mr Naik did not seem to sleep at night; night after night he was working away at the design and nuts and bolts of the Plan"... This was typical of J.P.'s method of work — he gave all to whatever he undertook to do. It was also typical of him that in our first-meeting, he did not flag his role in fashioning the Karachi Plan : a spirit of modesty was always a signal distinction of his intellectual calibre.

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As a follow-up of the Karachi Plan for the universalization of primary education, UNESCO proposed establishing in co-operation with the members States in Asia, a series of regional institutes for training educational personnel, including a regional office of education for Asia. India offered to set-up an institute for the training of educational planners and supervisors for the member States in Asia. J.P. assumed responsibility to start off the institute in New Delhi. It was accomplished in record time with an improvised faculty and the first batch of educators from Asia member States attended the first course. J.P. was at his inspiring best as teacher and guide and the course concluded as a clear success. Years later when as a UNESCO staff member and regional director of education, I visited the countries of the region, many educators in the countries occupying positions of high responsibility would recall in their conversations how much they learnt in the early courses at the New Delhi institute, in particular from lecturer J.P. Naik. I relayed these compliments unfailingly to J.P. who would promptly attribute the success to other members of the improvised faculty. This was the secure foundation on which the 1972-73 NIEPA was raised.

In the early 1960s a strong awareness in the Ministry of Education and in the Planning Commission focussed on research and development and on training areas for systematic collaboration with and support of the educational endeavours in the States. I was closely involved in these early initiatives. As I studied old files in which previous proposals for educational research and development were canvassed, I came across a longish memo by J.P. in which he had suggested that the medley of small institutes that had been established by the Central Ministry at New Delhi in the 1950s be amalgamated and housed in a new campus. This memo became the starting point of a careful and complex plan for an educational research-development-training organization. I was incharge of elaborating the plan with the co-operation of J.P. and a team of educators. Once again, J.P. impressed us all deeply by his insights and vision. Amalgamating these various small institutes with their different and at times incompatible philosophies into an articulated entity was not an easy task. At times tempers ran high, other times there was danger of losing commitment. Through it all, J.P. was a steadying anchor. Some of the institutes were following programmes to which J.P. found it difficult to relate. Nonetheless, he showed a unique capacity to empathise with the differing views and in the result secure for the project a strength that comes from co-operative work. The NCERT was thus the result of a wonderful team of dedicated educators.

My most vivid and enduring remembrance of J.P. is from his close ties with my family, specially children. This facet of his personality, his love of children, did not reveal itself in the aura of educational scholarship or policy-making; it unfolded unmistakably when he was with children. My wife and our children (now grown-up and with their own children) remember him best when he was in our family circle, and they have helped me to recall his visits to our home in New Delhi.

J.P. and I had been working on a difficult project. I invited him to my home so that he might meet the family and we could also work away from the bleak atmosphere of secretariat office. He came on a Saturday. All my five children were at home along with a few visiting friends of theirs. Three of my children were teenagers full of assurance and spirit of rebellion, and two were on the threshold of teenage. When J.P. arrived, he immediately made for the area of the living room where the children were at work. He introduced himself and started some sort of conversation with the bewildered children. He was utterly simple and natural and it did not take long for the children to feel at ease. I could sense that he had been accepted. By the end of the day, he was on friendly terms; he was being frilled on some subject or other. Before leaving, he promised them that he would visit them again. And he did; he would visit us or just drop by to talk to the children. They looked forward to his visits or even phone calls. One evening he came with an anthology of poetry. He recited some, he read out some more and soon the children were reading out with "full-throated ease"! J.P. loved the children with a love that evoked an equal love in response. Our children remember J.P.'s visits even across these thirty years.

In 1964 my family and I left India when I started service with UNESCO, based at Bangkok. Whenever I was in New Delhi on official visit or home leave, I always spent time with J.P., bringing myself up-to-date on his thoughts and plans.

Then, I invited him and Mrs Naik to come over to Bangkok and spend time with us. They came and we were together — my family and they — every day. He gave a series of talks on education under the auspices of UNESCO. He met for professional discussion with our UNESCO colleagues in small groups. He told me that he felt renewed by these professional exchanges. In my family we were all aware in a cloud of sadness that J.P.'s health was ebbing. But his spirit was high as always.

One late afternoon stands out in my memory from those last days. He was working in our UNESCO office. I was to pick him up and take him to where he and Mrs Naik were staying. I was held up in my office. J.P. had left his office and gone over to a shady tree — lined garden next to UNESCO office. When I came down, I saw him on a bench in the garden surrounded by eight or nine Thai children (their parents lived on the grounds or in the neighbourhood). There was no commom spoken language between J.P. and the children. I held back not wanting to disturb them. J.P. was gesturing with both hands and was in high spirit; the Thai children, first shy, were now talking all together and then one of them started singing. I do not know what the words of the song were but I know it was to thank J.P. for the gift of his caring affection with which he surrounded them.

Sri Aurobindo on Education

KIREET JOSHI*

Sri Aurobindo wrote a series of articles on education in the *Karma Yogin* during 1909-10 under the title "A System of National Education" and "The National Value of Art". He also wrote "A Preface on National Education" which appeared in the *Arya* in 1920 in two parts. His book, *The Synthesis of Yoga* in which we find extraordinary insights in regard to education, appeared serially in the *Arya* from August 1914 to January 1921 in four parts.

I

In *A National System of Education*. Sri Aurobindo points out that the question is not between modernism and antiquity, but between an imported civilization and the greater possibilities of the Indian mind and nature, not between the present and the past, but between the present and the future. He pointed out that "the living spirit of the demand for national education no more requires a return to the astronomy and mathematics of Bhaskara or the forms of the system of Nalanda than the living spirit of *Swadeshi*, a return from railway and motor traction to the ancient chariot and the bullock-cart". He, therefore, spoke not of a return to the 5th century but an initiation of the centuries to come, not a reversion but a break forward away from a present artificial falsity to India's own greater innate potentialities, which are demanded by the soul of India.

The major question, he pointed out, is not merely what science we learn, but what we shall do with our science and how too, acquiring the scientific mind and recovering the habit of scientific discovery, we shall relate it to other powers of the human mind and scientific knowledge to other knowledge more intimate to other and not less light-giving and power-giving parts of our intelligence and nature. Again, he pointed out the question is not what language, Sanskrit or another, should be acquired by whatever method is most natural, efficient and stimulating to the mind, but the vital question is how we are to learn and make

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use of Sanskrit and the indigenous languages so as to get to the heart and intimate sense of our own culture and establish a vivid continuity between the still living power of our past and the yet uncreated power of our future, and how we are to learn and use English or any other foreign tongue so as to know helpfully the life, ideas and culture of other countries and establish our right relations with the world around us. He argued that the aim and principle of a true national education is not to ignore modern truth and knowledge, but to take our foundation on India's own being, own mind, and own spirit. .

As against the idea that the modern European civilization is a thing that we have to acquire and fit ourselves for, so only can we live and prosper and it is this that our education must do for us, he argued that the idea of national education challenges the sufficiency of that assumption. He pointed out that India would do better, taking over whatever new knowledge or just ideas Europe has to offer, to assimilate them to its own knowledge and culture, its own native temperament and spirit, mind and social genious and create therefrom the civilization of the future. He pointed out that it would be strange if India could think of nothing better than to cast away its own self and potentialities and put its·trust in the dissolving and moribund past of Europe.

According to Sri Aurobindo, there is within the universal mind and soul of humanity the mind and soul of the individual with its infinite variation, its commonness and its uniqueness and between them there stands an intermediate power, the mind of a nation, the soul of the people. In his concept of a national system of education, Sri Aurobindo aimed at taking account of all these three elements so that national education would not be a machine-made fabric, but a true building or a living evocation of the powers of the mind and spirit of the human being.

Considering that India has seen always in the human being a soul, a portion of the divinity enwrapped in the mind and body, a conscious manifestation in Nature of the universal self and spirit, he concluded that the one central object of the national system of education should be the growth of the soul and its powers and possibilities as also the preservation, strengthening and enrichment of the nation-soul and the normative needs of its ascending movements. Not limited to these two, Sri Aurobindo put forth in its aim also the raising of both the individual soul and the national soul into the powers of the life and the ascending mind and the soul of humanity. He added "and at no time will it lose sight of man's highest object, the awakening and development of the spiritual being".[1]

II

Sri Aurobindo speaks of three principles of teaching, and when implemented, they provide a sound basis of a system of natural organization of the highest processes and the movements of which the human nature is capable. They also form the basis of the theory and practice of integral education, which has been propounded in detail in Sri Aurobindo's book, *The Synthesis of Yoga* and the Mother's book *On Education.*

In brief, the three principles of teaching are as follows in Sri Aurobindo's own words: "The first principle of true teaching is that nothing can be taught. The teacher is not an instructor or taskmaster, he is a helper and a guide. His business is to suggest and not to impose... The second principle is that the mind has to be consulted in its own growth. The idea of hammering the child into the shape desired by the parent or teacher is a barbarous and ignorant superstition. It is he himself who must be induced to expand in accordance with his own nature... The chief aim of education should be to help the growing soul to draw out that in itself which is best and make it perfect for a noble use... The third principle of education is to work from the near to the far, from that which is to that which shall be ... A free and natural growth is the condition of genuine development..."[2]

There are, according to Sri Aurobindo, three instruments of the teacher : instruction, example, and influence. The good teacher will seek to awaken much more than to instruct; he will aim at the growth of the faculties and the experiences by a natural process and free expansion. He will not impose his opinions on the passive acceptance of the receptive mind; he will throw in only what is productive and sure as a seed, which will grow under the benign fostering within. He will know that the example is more powerful than instruction. Actually, the example is not that of the outward acts but of the inner motivation of life and the inner states and inner activities. Finally, he will also acknowledge that influence is more important than example. For influence proceeds from the power or contact of the teacher with this pupil, from the nearness of his soul to the soul of another, infusing into the pupil, even though in silence, all that which the teacher himself is or possesses. The good teacher is himself a constant student. He is a child leading children, and a light kindling other lights, a vessel and a channel.

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[1] Sri Aurobindo: A Preface of National Education, Centenary Edition, Volume 17, p. 200

[2] Sri Aurobindo, Vol. 17, Centenary Edition, pp. 204-5

Sri Aurobindo's concept of integral education finds its full relevance in the context of what Sri Aurobindo has called an Evolutionary Crisis, a crisis that occurs in a species at a time when some kind of mutation is imminent. As he declares: "At present mankind is undergoing an evolutionary crisis in which is concealed a choice of its destiny; for a stage has been reached in which the human mind has achieved in certain directions an enormous development while in others it stands arrested and bewildered and can no longer find its way. A structure of the external life has been raised up by man's ever-active mind and life-will, a structure of an unmanageable hugeness and complexity, for the service of his mental, vital, physical claims and urges, a complex political, social, administrative, economic, cultural machinery, an organized collective means for his intellectual, sensational, aesthetic and material satisfaction. Man has created a system of civilization, which has become too big for his limited mental capacity and understanding and his still more limited spiritual and moral capacity to utilize and manage, a too dangerous servant of his blundering ego and its appetites. For no greater seeing mind, no intuitive soul of knowledge has yet come to his surface of consciousness which could make this basic fullness of life a condition for the free growth of something that exceeded it... A greater whole-being, whole-knowledge, whole-power is needed to weld all into a greater unity of whole life".[3]

According to Sri Aurobindo, one favourable factor, which is likely to help humanity, is the contemporary dissatisfaction that has arisen with materialism, on the one hand, and on the other hand, with asceticism, which has been negating the meaning and purposefulness of the material world. After centuries of experiments, materialism is gradually giving way to the pressures of new discoveries, which require exploration of the psychical and spiritual domains. Similarly, centuries of experiments in the spiritual fields have shown that the neglect of material life and neglect of collective welfare result in poverty or bankruptcy and even in economic and political slavery. As Sri Aurobindo pointed out:

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[3] Sri Aurobindo: The Life Divine; Centenary Edition, Vol. 19, pp. 1053-55).

"It is therefore of good augury that after many experiments and verbal solutions we should now find ourselves standing today in the presence of the two that have alone borne for long the most rigorous tests of experience, the two extremes... In Europe and in India, respectively, the negation of the materialist and the refusal of the ascetic have sought to assert themselves as the sole truth and to dominate the conception of Life. In India, if the result has been a great heaping up of the treasures of the Spirit, or of some of them, it has also been a great bankruptcy of Life; in Europe, the fullness of riches and the triumphant mastery of this world's powers and possessions have progressed towards an equal bankruptcy in the things of the Spirit... Therefore the time grows ripe and the tendency of the world moves towards a new and comprehensive affirmation in thought and in inner and outer experience and to its corollary, a new and rich self-fulfilment in an integral human existence for the individual and for the race.[4]

The knowledge of the secrets of the process of integral education is largely contained in the *Veda* and *Upanishads*, and what we find missing there has been discovered and perfected by Sri Aurobindo. It is in the light of all this knowledge that we can speak today with great assurance of the concept and practice of integral education and of the synthesis of the ancient secrets of the reign of Spirit over mind, life and the body and the modern secrets of utilization of the life in perfecting the instrumentality of the body, life and mind.

Integral education would not only aim at the integral development of personality, but it would also embrace all knowledge in its scope. It would pursue physical and psychical sciences not merely to know the world and Nature in her processes and to use them for material human needs, but to know through them the Spirit in the world and the ways of the Spirit in its appearances. It would study ethics in order, not only to search for the good as the mind sees it, but also to perceive the supra-ethical Good. Similarly, it would pursue Art not merely to present images of the subjective and the objective world, but to see them with significant and creative vision that goes behind their appearances and to reveal the supra-rational Truth and Beauty. It would encourage the study of humanities, not in order to foster a society as a background for a few luminous spiritual figures so that the many necessarily remain for ever on the lower ranges of life, but to inspire the regeneration of the total life of the earth and to encourage voluntary optimism for that regeneration in spite of all previous failures. Finally, it would encourage unity of knowledge and harmony of knowledge, and it would strive to foster the spirit of universality and oneness.

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[4] Sri Aurobindo: "The Life Divine"; Centenary Edition, Vol. 18, pp. 8-9.

An important characteristic of integral education is its insistence on simultaneous development of Knowledge, Will, Harmony, and Skill as also of all the parts of the being to the extent possible from the earliest stages of education. And since each individual child is unique in the composition of its qualities and characteristics, its capacities and propensities, integral education in its practice tends to become increasingly individualized. Again, for this very reason, the methods of education become increasingly dynamic, involving active participation of the child in its own growth.

III

An unprecedented kind of experiment in education was launched by Sri Aurobindo and the Mother, when in 1943, a school came to be established at the Sri Aurobindo Ashram at Pondicherry in South India. It was expanded into Sri Aurobindo International Centre of Education in due course, and the writings of Sri Aurobindo and the Mother on education have influenced greatly the innovative processes of education in the country, and they have also received wide attention from the world at large. Mention may be made of the Mother's small but great book on Education as also to a series of "Conversations" and "Questions and Answers" which have been published by the Sri Aurobindo Ashram.[5] (see footnote at next page).

In 1968, she founded Auroville a few miles away from Pondicherry, as a "Laboratory of the new Evolution". Auroville has conducted various experiments in education, inspired and initiated by the Mother and published two important volumes of educational research under the titles *The Aim of Life* and *The Good Teacher and the Good Pupil* which have received country-wide attention in India.

IV

Principles and methods of education advocated by Sri Aurobindo and the Mother have a profound bearing on psychic and spiritual education. These two domains bring into the picture all that is central to value-oriented education, and to higher and profounder elements of human psychology. Sri Aurobindo and the Mother have advocated new methods that are free from those of dogmas, rituals, ceremonies, prescribed acts. Spirituality, according to Sri Aurobindo and the Mother, is a vast domain of the inmost soul, of the immobile silence, of the higher objects of the higher psychological exploration. The justification for psychic and spiritual education rests upon three important considerations: (a) education should provide to the individual a steady exploration of something that is inmost in the psychological complexity of human consciousness; (b) the most important question of human life is to consider the aim of human life and the aim of one's own life and one's own position and role in the society; and this question can best be answered only when the psychic and spiritual domains are explored and when one is enabled to develop psychic and spiritual faculties of knowledge; and (c) the contemporary crisis of humanity has arisen because of the disbalancement between the material advancement on the one hand and inadequate spiritual progression, on the other. If, therefore, this crisis has to be met, development of psychic and spiritual consciousness should be fostered. Unfortunately, spiritual consciousness is often conceived as a denial of material life and concerns of collective life. In Sri Aurobindo's and the Mother's view, however, there is no fundamental opposition

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[5] The Mother (Madame Mirra Alfassa) was born in Paris on 21 February 1878. In her early years, spontaneous experiences took her on ranges out of her body, into the earth's past, and without her understanding, led her to the discovery of "past lives". She made thorough studies in piano, painting and higher mathematics. At the age of 26, she had several dreams of Sri Aurobindo — of whom she had never heard before. She later became acquainted with Max Theon, an enigmatic character with extraordinary occult powers, who for the first time gave a coherent explanation of her experiences and taught her occultism during two long visits to his estate in Algeria. In 1914, she came from France to India, and met Sri Aurobindo for the first time on 29 March. She realized that her work was identical with the work of Sri Aurobindo. She spent one year in Pondicherry and then four years in Japan and returned to Sri Aurobindo for good in 1920 via China. She organized and developed the Ashram as also its International Centre for Education. After Sri Aurobindo's passing in 1950, she guided experiments in education and invented new methods and new ways of education as also flexible structures in order to give a concrete shape to Sri Aurobindo's concept of integral education. In 1958, she entered upon the "Yoga of the Cells" which led her to the discovery of "a cellular mind" capable of reconstructing the nature of the body. From 1958 to 1973, she slowly uncovered the "Great Passage" to the next species and a new mode of life in Matter. An authentic and scientifically scrupulous account of this Passage is to be found in 'Mother's Agenda" in 13 Volumes, which are published by the Institute de Recherches Evolutives in France.

between Matter and Spirit. True integrality, according to them, implies rejection of no element in human personality and no denial of anything that can contribute to the full flowering of faculties of personality.

Again, according to Sri Aurobindo and the Mother, psychic and spiritual development cannot be effected without effecting high level development of the body, life and mind, and that the perfection of the body, life and mind can be attained only when the powers of psychic and spiritual consciousness are bestowed upon the instruments of the body, life and mind.

At an important stage of experimentation, the Mother gave the message that while India has or rather had spiritual knowledge but neglected Matter, the West has knowledge of Matter but has neglected the Spirit, as a consequence of which both India and the West are suffering, and the solution would be to develop integral education, which would restore the development of matter under the guidance and authority of the Spirit.

V

There is a distinction between psychic consciousness and spiritual consciousness, as there is a distinction between spiritual consciousness and supramental consciousness. As the Mother pointed out:

"The psychic life is immortal life, endless time, limitless space, ever-progressive change, unbroken continuity in the universe of forms. The spiritual consciousness, on the other hand, means to live the infinite and the eternal to be projected beyond all creation, beyond time and space. To become conscious of psychic being and to live a psychic life, you must abolish all egoism; but to live a spiritual life, you must no longer have an ego".[6]

As far as the supramental education is concerned, the Mother pointed out that:

"The supramental education will result no longer in a progressive form of human nature and an increasing development of its latent faculties, but in a transformation of the nature itself, a transfiguration of the being in its entirety, a new ascent of the species above and beyond man towards superman, leading in the end to the appearance of a divine race upon earth."[6]

If these three aspects of higher education are to be conducted properly, one must take great care to ensure that methods of religion are not introduced. Religion implies normally the methods of belief or dogma, performance of rituals and ceremonies, and prescriptions of certain specific acts, which are considered to be religious as distinguished from profane.

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[6] The Mother: Education, Part I, p. 38.

VI

A constant insistence of Sri Aurobindo and the Mother has been on detailed perfection of the human mind, life and body. We may, therefore, turn to the three domains of mental education, vital education, and physical education as expounded and experimented upon at Sri Aurobindo Ashram at Pondicherry and subsequently at the Sri Aurobindo International Institute of Educational Research at Auroville.

Mental Education

In regard to mental education, the processes and methods can best be determined by understanding of the mind. Mind is concerned largely with the activities of understanding, and all understanding is a discovery of a centre around which the ideas or things in question are held together.

Mental education is a process of training the mind of students to arrive at such central conceptions around which the widest and most complex and subtle ideas can be assimilated and integrated.

It is again found that even these central conceptions point still to a beyond, to their own essential Meaning, which can be glimpsed and conceived by the mind, but which cannot be held and possessed fully in experience by the mind. This point marks the climax of the mental development as also a clear sign of the limitations of the mind. Having reached there its office is to fall into contemplation of silence and to open to the higher realms of experience, to receive clearly and precisely the intuitions and inspirations from those higher realms, and to give creative expression to them.

To train the mind on these lines, there are five phases of the programme:

(i) Development of the power of concentration, and attention;

(ii) Development of the capacities of expansion, wideness, complexity and richness;

(iii) Organization of ideas round a central or a higher ideal or a supremely luminous idea that will serve as a guide in life;

(iv) Thought control, rejection of undesirable thoughts so that one may, in the end, think only what one wants and when one wants;

(v) Development of mental silence, perfect calm and a more and more total receptivity to inspirations coming from the higher regions of the being.

Multiplicity of ideas, richness of ideas, totality of points of view — these should be made to grow by a developed power of observation and concentration and by a wideness of interest. Care should be taken to see that the central ideas are not imposed upon the growing mind — that would be the dogmatic method, which tends to atrophy the mind. The mind should grow towards central ideas which should come as a discovery of the mind made through rigorous exercise of the rational faculty.

Stress should fall not only on understanding but also on criticism and control of ideas; not only on comprehension, synthesis, creativity, judgment, imagination, memory and observation, but also on critical functions of comparison, reasoning, inference and conclusion. Both these aspects of human reason are essential to the completeness of the mental training.

One of the best methods is to create an atmosphere in which massive and powerful ideas are constantly thrown as a stimulation and challenge impelling the students to arrive at them or strive to grasp and assimilate them.

Thinkers alone can produce thinkers; and unless teachers are constantly in the process of building up great thoughts and ideas, it is futile to expect a sound or vigorous mental education.

An atmosphere vibrant at once with ideation and silence, and atmosphere surcharged with synthetic thoughts and most integral aspirations and an atmosphere filled with the widest realization and a harmonious unity — such an atmosphere is indispensable for perfect mental education.

A constant attempt should be made to present each topic to the student in a challenging way so as to stimulate him and create his interest in the topic. To find new and imaginative methods, to compile materials from various sources, to introduce new concepts and new interpretations in various subjects, to develop new subjects, and above all, to attend in detail to all the psychological faculties and their development in such a way that the mental education does not veil the soul — this, in brief, should be the endeavour and its spirit.

Vital Education

Vital Education aims at training the life-force (that normally vibrates in emotions, desires and impulses) in three directions: to discover its real function and to replace its egoistic and ignorant tendency so as to become the master by a willingness and capacity to serve higher principles of the psychological constitution; to subtilise and sublimate its sensitivity which expresses itself through sensuous and aesthetic activities; and to resolve and transcend the dualities and contradictions in the character constituted by the vital seekings, and to achieve the transformation of the character.

The usual methods of dealing with the vital have been in the past those of coercion, suppression, abstinence and asceticism. But these methods do not give lasting results. Besides, they only help in drying up the drive and dynamism of the life-force; and thus the collaboration of the life-force in self-fulfilments is eliminated.

The right training of the vital then is much more subtle and much more difficult, needing endurance, endless persistence and an inflexible will. For what is to be aimed at is not the negation of life but the fulfilment of life but its transformation.

First, the powers of the senses have to be developed, subtilised and enriched. Next, there are inner and latest senses which are to be discovered and similarly developed. Third, the seekings of these senses have to be trained to reject grossness and coarseness and to enjoy the finer tastes and higher aesthetic experiences. Finally, there has to be a deeper and piercing observation of the desires, passions, ambitions, lusts, etc. their risings, revolts and contradictions, and an attempt by various methods to separate out in each movement the elements that contribute to the concord and harmony from those tending in the opposite direction, and to eliminate these latter from the very nature and fibre of our psychological constitution.

The effective methods of this last aspect are :

- to instill in the child, as soon as possible, the will towards progress and perfection;
- rational arguments, sentiment and goodwill, or appeal to the sense of dignity and self-respect according to the nature of the child in question;

- to insist on the idea that the will can be developed, and that no defeat should be taken as final;
- to demand from the will the maximum effort, for the will is strengthened by effort;
- above all, the example of the educator shown constantly and sincerely.

But still the direction in which the effort has to be made can be known only by the training of the mind and by the opening of the secret knowledge that is within our psychic being. To develop therefore in the vital the habit to open to this light and to act in that light would be to place the vital in its proper place as a will-force executing the inner and higher knowledge.

Vital education is greatly aided by stress on different kinds of fine arts and crafts. Sri Aurobindo has written at length on the contribution that Art can make to the integral education in his important book, *The National Value of Art*. He has pointed out that the first and the lowest use of Art is purely aesthetic, the second is the intellectual and the third and the highest is the spiritual. He has even stated that music, art and poetry are a perfect education for the soul; they make and keep its movements purified, deep and harmonious. He has added, "These, therefore, are agents which cannot profitably be neglected by humanity on its onward march or degraded to the mere satisfaction of sensuous pleasure which will disintegrate rather than build the character. They are when properly used, great educating, edifying and civilizing forces". [7]

A great lesson in vital education is to develop the will of the individual and to encourage the exercise of the will in which what is valued most is not the result, but application and doing one's best.

Physical Education

On the subject of physical education, it must be mentioned that the physical is our base, and even the highest spiritual values are to be expressed through the life that is embodied here. *Sariram adyam khalu dhamasadhanam*, says the old Sanskrit adage, – the body is the means of fulfilment of *dharma*, while *dharma* means every ideal which we can propose to ourselves and the law of its working out and its action.

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[7] Sri Aurobindo, Vol. 17, Centenary Edition, p. 246

Of all the domains of education, physical is the one most completely governed by method, order, discipline and procedure. All education of the body must be rigorous, detailed and methodical.

The education of the body has three principal aspects: control and discipline of functions of the body; a total methodical and harmonious development of all the parts and movements of the body; rectification of defects and deformities, if there are any.

Physical education must be based upon knowledge of the human body, its structure and its functions. And the formation of the habits of the body must be in consonance with that knowledge.

The child should be taught right from the early stage the right positions, postures and movements.

A similar training should be with regard to the choice of food. The child should develop the taste that is simple and healthy, substantial and appetizing. He must avoid all that merely stuffs and causes heaviness; particularly, he must be taught to eat according to his hunger and not make food a means to satisfy his greed and gluttony.

The child should also be taught the taste for cleanliness and hygienic habits. It is important to impress upon the child that he is not more interesting by being ill, rather the contrary. Children should be taught that to be ill is a sign of failing and inferiority, not of virtue or sacrifice.

VII

Freedom and Discipline

A very important problem in respect of integral education arises from tis insistence on proper synthesis between freedom and discipline. Since education is a creative process, and since compulsion and creativity cannot go together, freedom has to be a very important instrument of education. The ideal condition is obtained when discipline becomes the child of freedom and discipline is transformed into self-discipline.

We have to recognize that different children react to various activities of education differently. There are children who feel a powerful attraction towards creative activities such as arts, music, dance, composition of poetry, drama, etc. They should, of course, be given freedom to pursue these valuable activities. But there are instances where children who do not have this natural inclination towards creative activities are also compelled to be engaged in these activities. This is entirely unacceptable.

We may also need to note that there are children who do not easily respond either to the activities of creativity or activities of production, but who are deeply reflective and to whom abstraction of thought and clarity and beauty of ideation constitute a fascinating project. We must recognize that a deep exercise in ideation and organization of ideas is a very active engagement. It is a great activity of concentration.

At the same time, an exclusive pursuit of ideation without devoting any attention whatever to creative or productive activity may lead to a lopsided development of personality. But the remedy is not to make things compulsory, but to counsel children, to motivate and suggest to them how gradually various kinds of activities can be blended together for a harmonious development. But while counselling, the teacher must realize and appreciate that there are periods where psychologically even an exclusive development of ideative activity or productive activity or creative activity has its legitimate claims. To what degree this claim has to be satisfied and in what way this claim has to be subordinated to the other claims of development will demand from the teacher a very deep insight into the inner psychological workings of the formation of the personality and his sympathetic understanding of the psychological differences among various children.

It may also be noted that there are children who are deeply interested in activities of self-sacrifice or of purifying their base emotions, or of the worship of the noblest ideals of life. Sometimes they may show no interest in studies or in arts or in crafts and often teachers complain of their dullness or their lack of concentration in studies. But a good teacher should ask himself if the child in question is not inwardly engaged in what may be called activities of "purification".

There could also be children like Yuddhishthira who would not claim that they have learnt lesson unless they have succeeded in practising it in their daily life. These are indeed noble children and the teacher should be able to appreciate their nobility and encourage it so as to lead it to its perfection.

During the course of educational process, students often come up with some very fundamental questions but they often remain unanswered. Why, for example, should one learn mathematics? What does really history teach us? What is the relationship between language and mathematics? What is the aim of life? There should be freedom to raise these questions and also enough time and readiness to answer them, even though they may not be a part of any prescribed syllabus.

Another important point that should be noted is that a great care should be taken to get the development of the child in such a way that in spite of the growth of knowledge, the student does not lose freshness and sense of wonder and mystery. This indeed is the most difficult part of the work of the teacher.

VIII

If we make a deep study of the experiments in education guided and conducted under the inspiration of Sri Aurobindo and the Mother, it may be said that there are three important features that come to the forefront and which may help us to define what may be called "New Education":

1. Learning by practice;
2. Search for meaning and unity of knowledge; and
3. Unending education and perpetual youth.

New education insists on the development of the mind, life and body, it aims at development of these instruments for the discovery of the inner psychic being; it proposes to utilize mental, vital, physical perfection as instruments of the perfect manifestation of the inner and higher realities. The effort is to make the body supple, strong, agile and beautiful; the vital is to be trained to become dynamic, disciplined, obedient and effective; the mind has to be cultivated to be intelligent, observant, concentrated, free, rich and complex. But at every stage the paramount importance is to be given to the needs of the psychic and spiritual growth. As the Mother writes: "The will for the great discovery should be always there soaring over you, above what you do and what you are, like a huge bird of life, dominating all the movements of her being".[8]

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[8] The Mother on Education, Collected Works, Vol. 12 (Centenary Edition), p. 35